SY-KT880 DRAGON 2

Motherboard

****

AMD Athlon & Duron Processors Supported

VIA KT880 AGP/PCI Motherboard

200/266/333/400 MHz Front Side Bus supported

ATX Form Factor

****

User's Manual

SOYO™

SY-KT880 DRAGON 2

About This Guide:
This Quick Start Guide can help system manufacturers and end users in setting up and installing the Motherboard. Information in this guide has been carefully checked for reliability; however, to the correctness of the contents there is no guarantee given. The information in this document is subject to amend without notice.

For further information, please visit our **Web Site** on the Internet. The address is **"http://www.soyo.com.tw"**.

FC Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

Edition: April 2004
Version P1.0
KT880 DRAGON 2 SERIES

100% POST CONSUMER
RECYCLED PAPER

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Chapter 1

MOTHERBOARD DESCRIPTION

1-1 INTRODUCTION

The **SY-KT880 DRAGON 2** AGP/PCI motherboard is a high performance Socket A, ATX form-factor system board. The **SY-KT880 DRAGON 2** uses VIA Chipset technology and supports AMD Socket class processors. This motherboard is fully compatible with industry standards and adds many technical enhancements.

1-2 UNPACKING THE MOTHERBOARD

When unpacking the motherboard, check for the following items:

◆ The SY-KT880 DRAGON 2 AGP/PCI motherboard

◆ The user manual

◆ The Installation and Bonus Pack CD-ROM

◆ Four Serial ATA Cables

◆ Two IDE Device ATA 66/100/133 Flat Cable
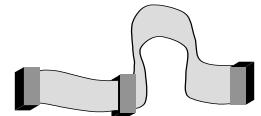
◆ One Floppy Disk Drive Flat Cable
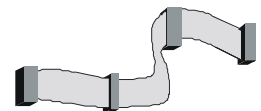
◆ One Heat Sink Compound

◆   One COM port/Printer port Bracket
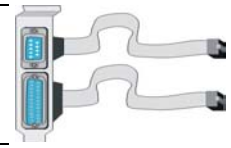
◆   One Back Panel
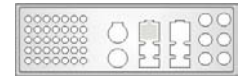
STOP   ***Warning:*** Do not unpack the motherboard from its anti-static packaging until you are ready to install it.

Like most electronic equipment, your motherboard may be damaged by electrostatic discharge. To avoid permanent damage to components ground yourself while working by using a grounding strap. Otherwise, ground yourself frequently by touching the unpainted portion of the computer chassis to drain the static charges.

Handle the motherboard carefully, holding it by the edges.

You are now ready to start the installation.

1-3 KEY FEATURES

CPU	Supports AMD 462 pins Socket A processors: ➢ Athlon XP (Palomino/Thoroughbred/Barton) (200/266/333/400 MHz FSB) ➢ Duron/Morgan
Chipset	VIA KT880/ 8237 Chipset
Memory	➢ Supports PC2100, PC2700 and PC3200 DDR (non-registered and ECC) memory modules.
AGP	1x AGP Pro master 4x/8x slot (1.5v only)
PCI	5x 32-bit bus master PCI slots
I/O	ITE IT8705F (GX) Super I/O controller supporting: ➢ Floppy disk controller ➢ Parallel port (SPP, EPP and ECP compliant) ➢ IrDA compatible infrared port ➢ PS/2 Keyboard and mouse ➢ Hardware monitor for monitoring temperatures, voltages and fan speeds in the system.
Storage	➢ VIA VT8237 Integrated Parallel ATA controller supporting up to 4x UDMA 33/66/100/133 Parallel ATA devices. ➢ VIA VT8237 Integrated Serial ATA controller (SATA1/2) supporting up to 2x UDMA 150 hard disks in normal or RAID 0,1 mode. ➢ ALi M5281 Integrated Parallel ATA controller (IDE3/4) supporting up to 4x UDMA 33/66/100/133 Parallel ATA devices. Support RAID 0, 1, 0+1 mode. ➢ ALi M5281 Integrated Serial ATA controller (SATA3/4) supporting up to 2x UDMA 150 hard disks in normal or RAID 0, 1 mode.
USB 2.0	8x USB 2.0 compliant ports (4 on rear IO panel, 4 pin headers.)
IEEE 1394	Onboard VIA VT6307 IEEE1394 Firewire controller with 2x pin header

Sound	AC97 C-Media CMI9780 8 Channel CODEC
Network	Onboard VIA VT6122 100Base-T and 1000BASE-T(Gigabit) Ethernet controller, supporting Wake-On-Lan (WOL).
BIOS	➤ Power Failure resume function to allow the system to turn on or off after a power failure, which is indispensable for server systems. ➤ Wake On Ring and Power On by Alarm to allow your system to wake up from suspend or power on through the modem or RTC alarm. ➤ Multiple boot, allowing your system to boot from for example CD-ROM

1-4 HANDLING THE MOTHERBOARD

To avoid damage to your motherboard, please follow these simple rules while unpacking:

➤ Before handling the motherboard, ground yourself by grasping an unpainted portion of the system's metal chassis.

➤ Remove the motherboard from its anti-static packaging. Hold the motherboard by the edges and avoid touching its components.

➤ Check the motherboard for damage. If any chip appears loose, press carefully to set it firmly in its socket.

Warning: Do not apply power if the motherboard appears damaged. If there is damage to the board, contact your dealer immediately.

1-5 ELECTROSTATIC DISCHARGE PRECAUTIONS

Be sure to ground yourself before handling the motherboard or other system components. Electrostatic discharge can easily damage the components. Note that you must take special precautions when handling the motherboard in dry or air-conditioned environment.

To protect your equipment from electrostatic discharge, take the following precautions:

➢ Do not remove the anti-static packaging until you are ready to install.

➢ Ground yourself before removing any system component from its protective anti-static packaging. (To ground yourself, grasp the expansion slot covers or other unpainted portions of the computer chassis).

➢ Frequently ground yourself while working or use a grounding strap.

➢ Handle the motherboard by its edges and avoid touching its components.

1-6 SY-KT880 DRAGON 2 MOTHERBOARD LAYOUT
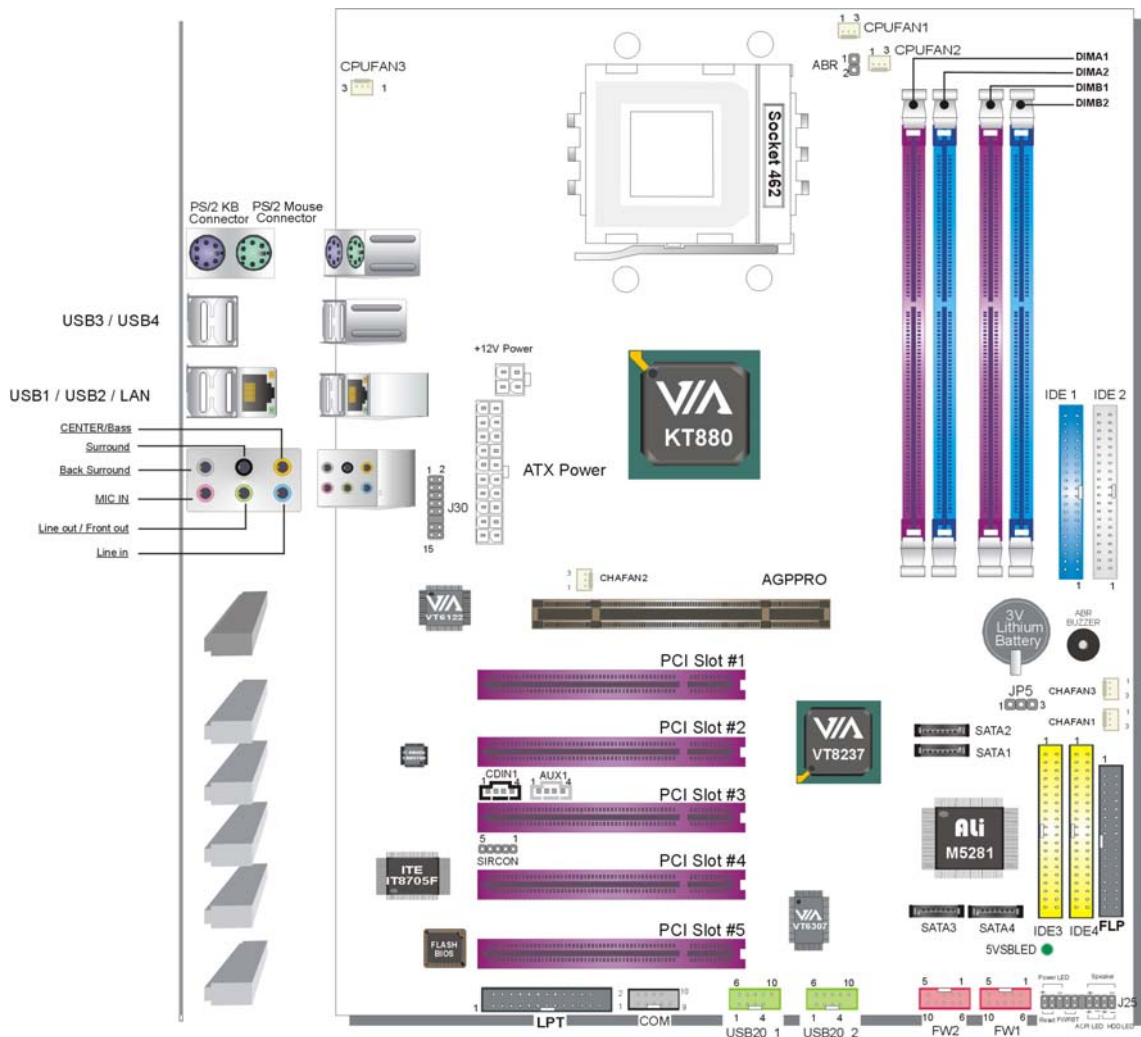
Back Panel　　　　　　　**SY-KT880 DRAGON 2 Platform**

1-7 SY-KT880 DRAGON 2 MOTHERBOARD COMPONENTS

A	**CPU Cooling Fan (CPUFAN3) connector** With these connectors you can attach the CPU fan or fans to your motherboard. They supply power and (in the case of CPUFAN1) allow you to monitor the speed of the FAN via the SOYO Hardware Monitor software or via CMOS setup. For more details on the lay-out of these connectors, check the **CPU Cooling FAN (CPUFAN1, CPUFAN2, CPUFAN3)** paragraph on page 36.
B	**Front panel I/O Connector (J30)** This connector allows you to extend your earphone, microphone, Line-in connector to your front panel. Check the **Front panel I/O Connector (J30)** paragraph on page 39 for a lay-out of this header.
C	**ATX Power Supply connector** This connector is to connect the ATX connector of your ATX 12V compliant power supply to the motherboard. For more details on this connector, please check the **F. ATX12V Power Supply** paragraph on page 41.
D	**+12V Power Connector** This is where the Power Supply's +12V ATX connector goes. For a lay-out of this connector please check the **F. ATX12V Power Supply** paragraph on page 41.
E	**VIA KT880 North Bridge** The advanced FastStream64 DDR400 Memory Controller on the VIA KT880 interweaves with the 400MHz Front Side Bus to provide a perfectly balanced subsystem, greatly reducing data latency and enabling searing performance from the latest AMD Athlon™ XP processors. In addition, the KT880 supports the very latest I/O technologies including AGP8X, deriving maximum performance from the most powerful graphics processors.
F	**Socket 462 (Socket A) connector** This is the Zif (Zero Insertion Force) socket for your AMD Athlon®, Athlon XP®, Duron® or Morgan® CPU. For more information on how to install your CPU, check the CPU Mount Procedure paragraph on page 17.

G	**ABR (Anti Burn Regulator) Jumper** SOYO's ABR (Anti Burn Regulator) is specially designed hardware circuits that works hand in hand with the CPU's internal sensor in monitoring the temperature of the CPU and prevent it from overheating. This jumper enables or disables this function. For more information, please check the **ABR (Anti Burn Regulator)** paragraph on page 21.
H	**CPU Cooling Fan (CPUFAN1, 2) connectors** With these connectors you can attach the CPU fan or fans to your motherboard. They supply power and (in the case of CPUFAN1) allow you to monitor the speed of the FAN via the SOYO Hardware Monitor software or via CMOS setup. For more details on the lay-out of these connectors, check the **CPU Cooling FAN (CPUFAN1, CPUFAN2, CPUFAN3)** paragraph on page 36.
I	**DDR DIMM Banks** These 4, 184 pin memory slots are to install your system memory in. They support up to 4 GB of memory. For more details check the **Step 2 Install Memory Module** paragraph on page 22.
J	**Bus Mastering EIDE/ATAPI Ports** These connectors are to attach your IDE devices to. Each connector can support up to 2 IDE devices, 1 master and 1 slave. Please check the **A. IDE Device Installation (HDD, CD-ROM)** paragraph on page 25 for more details.
K	**VIA VT8237 South Bridge** Featuring the first ever integrated combined Serial ATA/RAID controller, the VT8237 is the most advanced South Bridge available on the market today. With its integrated dual channel native Serial ATA/RAID controller supplying 150MB/s of bandwidth per port and support for RAID 0 & RAID 1, the VT8237 delivers the highest disk data transfer rates for maximum system performance and provides the most advanced fault tolerant solution for optimum data integrity. The VT8237 also features support for up to four Parallel ATA-133 devices, extending flexibility to the system integrator by allowing for mainstream or value configurations leveraging the existing technology standard. Additional features on the VIA VT8237 South Bridge include support for up to eight USB 2.0 ports, and integrated PCI support.

L	**3V Lithium Battery** This battery supplies power to the CMOS RAM. As long as the battery supplies enough power, the contents of your CMOS RAM will be valid. CMOS RAM contents are configured by CMOS setup, and can be cleared by JP5. For more details on this check the **G. CMOS Clear (JP5)** paragraph on page 43.
M	**Onboard buzzer** This buzzer gives off system beeps.
N	**Chassis Cooling Fan (CHAFAN1, 3)** This connector is to connect your chassis fan to your motherboard. This motherboard supports up to 3 chassis fans. It allows you to monitor the speed of CHAFAN1 in CMOS setup or by using the SOYO Hardware Monitor software. Please check the **Chassis Cooling Fan (CHAFAN1,CHAFAN2, CHAFAN3)** paragraph on page 37 for more details.
O	**CMOS Clear Jumper (JP5)** This jumper allows you to clear your CMOS RAM contents in order to reset your system configuration. For more details on this check the **G. CMOS Clear (JP5)** paragraph on page 43.
P	**Floppy disk connector** This motherboard supports one floppy drive. For more details, please check the **B. Floppy Drive Installation** paragraph on page 27.
Q	**IDE RAID Ports** This IDE port (IDE 3, 4) can be used as normal IDE port or in a RAID configuration and are controlled by ALi M5281 chip. ATAPI devices will not work on these ports. For more details, please check the **A. IDE Device Installation (HDD, CD-ROM)** paragraph on page 25.
R	**5V Stand-By Indicator LED** The power supply will always supply a 5V standby voltage to your motherboard so that it can power on via for example Wake On Lan technology. This LED shows that your power supply is supplying this standby voltage to your motherboard.
S	**J25 Front panel connections header** This header contains the connections to the front panel on the case. For more details, please check the **C. Front Panel Connections** paragraph on page 28.

T	**ALi M5281 Serial ATA/IDE RAID chip** The M5281 provides personal computer systems with PCI device solution of the highest integration: It includes two Serial-ATA Host controllers (SATA3/4) for supporting a total of 2 ports, two fully Parallel-ATA Host controller (IDE3/4) for supporting two single channel.
U	**IEEE1394 Firewire connector** These connectors allow you to attach IEEE 1394 connectors or devices to the motherboard. The lay-out can be found in the **IEEE 1394 (Firewire) Connector (FW1/FW2)** paragraph on page 40.
V	**SATA Connectors** These connectors allow you to attach one UDMA 150 hard disk to each connector. SATA1/2 are controlled by VIA VT8237 chip, and SATA 3/4 are controlled by the ALi M5281 chip, and SATA1~4 all can support RAID 0 and 1. For more information on these connectors check the **A. IDE Device Installation (HDD, CD-ROM)** paragraph on page 25.
W	**VIA VT6307 IEEE 1394 Firewire controller** The VIA Fire II VT6307 provides direct connectivity between the PCI and 1394 serial buses. With three ports, the VIA Fire II VT6307 is designed to provide scalability and manageability in IEEE 1394 network solutions for home networking and multiple PC access to a single internet connection. Each individual port detects connected device types and automatically configures data speeds to either 100, 200 or 400 Mbps, speeds well suited to multi-streaming I/O requirements. A programmable PCI power management mode (specification 1.1) shuts down power to unconnected ports while the sleep function maximizes power efficiency of connected ports.
X	**USB 2.0 connectors** These connectors support 2 USB 2.0 ports per connector. For details on the lay-out, please check the **Universal Serial Bus (USB1/USB2/USB3/USB4, USB20_1/USB20_2)** paragraph on page33.
Y	**COM Port**
Z	**LPT Port**

AA	**Flash BIOS** This chip contains the system BIOS firmware, and is software upgradable. It's size is 2Mbit. For updates of your Flash BIOS, please go to http://www.soyousa.com. For details on how to setup your BIOS, please go to the **Quick BIOS Setup** chapter on page 44.
AB	**ITE IT8705F Super I/O Chip** IT8705F is a LPC Interface based highly integrated Super I/O. IT8705F provides the most commonly used legacy Super I/O functionality plus the latest Environment Control initiatives, such as Hardware Monitor, Fan Speed Controller and ITE's "SmartGuardian" function. The device's LPC interface complies with Intel "LPC Interface Specification Rev. 1.0" (Sept. 29, 1997). IT8705F meets the "Microsoft PC98/99/2001 System Design Guide" requirements and is ACPI compliant.
AC	**Serial Infrared (IrDA) device header** This header allows you to connect an IrDA receiver to the motherboard. You can find the lay-out in the **Standard Infrared (SIRCON)** paragraph on page 35.
AD	**CDIN CDROM Audio In connectors** This connector is to attach your analog audio output channel from your CDROM or DVD drive to your motherboard. Please check for more details on page 38 in the **CD Line-in/AUXIN (CDIN1,AUXIN1)** paragraph.
AE	**AUXIN CDROM Audio In connectors** This connector allows you to attach a second CDROM analog audio out output to your motherboard. Please check for more details on page 38 in the **CD Line-in/AUXIN (CDIN1,AUXIN1)** paragraph.
AF	**AC97 C-Media CMI9780 8 Channel CODEC**
AG	**32 bit PCI slots** These are the motherboard's 3.3v busmastering PCI slots, compliant to PCI specification v2.2. Please check the **Step 3 Install Expansion Card** paragraph on page 23 for more details.

AH	**VIA VT6122 LAN Chip** Onboard VIA VT6122 100Base-T and 1000BASE-T(Gigabit) Ethernet controller, supporting Wake-On-Lan (WOL).
AI	**Chassis Cooling Fan (CHAFAN2)** This connector is to connect your chassis fan to your motherboard. This motherboard supports up to 3 chassis fans. It allows you to monitor the speed of CHAFAN2 in CMOS setup or by using the SOYO Hardware Monitor software. Please check the **Chassis Cooling Fan (CHAFAN1,CHAFAN2, CHAFAN3)** paragraph on page 37 for more details.
AJ	**AGP Pro Slot** This is the AGP expansion slot for your video card. Note that it can only work with 1.5v AGP cards. For more information, check the **Step 3 Install Expansion Card** paragraph on page 23.
AK	**Back panel connectors** These connectors allow you to attach the external devices to the back of your PC. Please check the **Back Panel Connections** paragraph on page 30 for more details.

Chapter 2

HARDWARE INSTALLATION

Congratulations on owning a-**SY-KT880 DRAGON 2**. You are about to install and connect your new motherboard.

> **Note:** Do not unpack the motherboard from its protective anti-static packaging until you have made the following preparations.

2-1 PREPARATIONS

Gather and prepare all the following hardware equipment to complete the installation successfully:

1.   Socket A processor with built-in CPU cooling fan (boxed type)

2.   DDR RAM module (s)

3.   Computer case and chassis with adequate power supply unit

4.   Monitor

5.   PS/2 Keyboard

6.   Pointing Device (PS/2 mouse)

7.   Speaker(s) (optional)

8.   Disk Drives: HDD, CD-ROM, Floppy drive…

9.   External Peripherals: Printer, Plotter, and Modem (optional)

10.   Internal Peripherals: Modem and LAN cards (optional)

2-2 INSTALLATION GUIDE

We will now begin the installation process. Please follow the step-by-step procedure designed to lead you to a complete and correct installation.

Step 1- Install the Central Processing Unit (CPU)

Step 2- Install memory modules

Step 3- Install expansion cards

Step 4- Connect cables, case wires, and power supply

Step 5- Power on and enter BIOS setup

Step 6- Install supporting software tools. See Chapter 4 for more info.

> **STOP**
>
> *Warning:* Turn off the power to the motherboard, system chassis, and peripheral devices before performing any work on the motherboard or system.

BEGIN THE INSTALLATION

Step 1 Install the CPU

CPU Mount Procedure: To mount the AMD® K7 Athlon XP or Duron™ processor that you have purchased separately, follow these instructions.

1.   Lift the socket handle up to a vertical position.
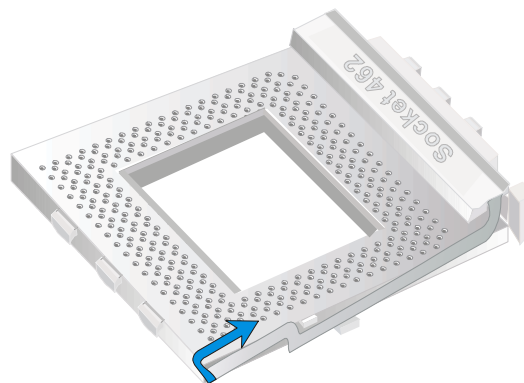
2.   Align the blunt edge of the CPU with the matching pinhole distinctive edge on the socket.
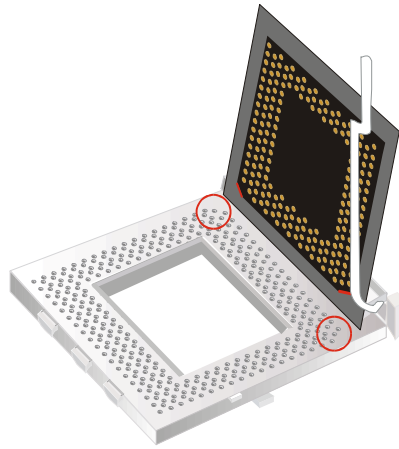
3.   Seat the processor in the socket completely and without forcing.
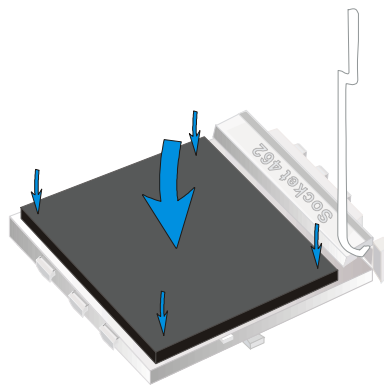
4.   Then close the socket handle to secure the CPU in place.
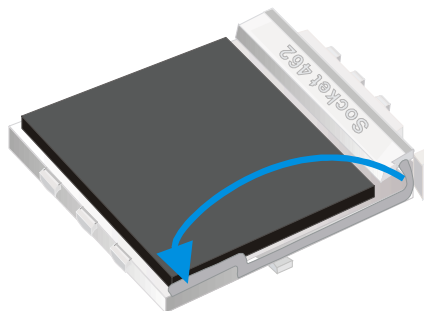
![HOT]	Remember to connect the CPU Cooling Fan to the appropriate power connector on the motherboard. The fan is a key component that will ensure system stability. It prevents overheating, therefore prolonging the life of your CPU.

CPU Fan Installation

Your Socket A processor kit comes with a cooling fan. Mount the fan on the processor according to the instructions provided by the manufacturer. The fan is a key component that will ensure system stability. The fan prevents overheating, therefore prolonging the life of your CPU.

> *Note:* Remember to connect the fan to the appropriate power source.

CPU Fan Mount Procedure: To prevent scratch or damage to the motherboard, please follow the instructions on how to mount the CPU fan properly.

1. Apply thermal paste to the die of the CPU.
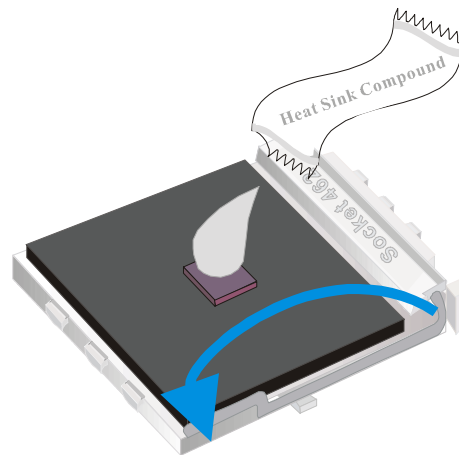
2. Make sure that the retaining clip is in this position before trying to install the heatsink. Notice that the clip is *not* symmetrical. The long end always attaches to the top of the socket (the end that reads "Socket 462"), while the short end engages the bottom of the socket. No matter which heatsink is used, the clip is always installed in the same manner.
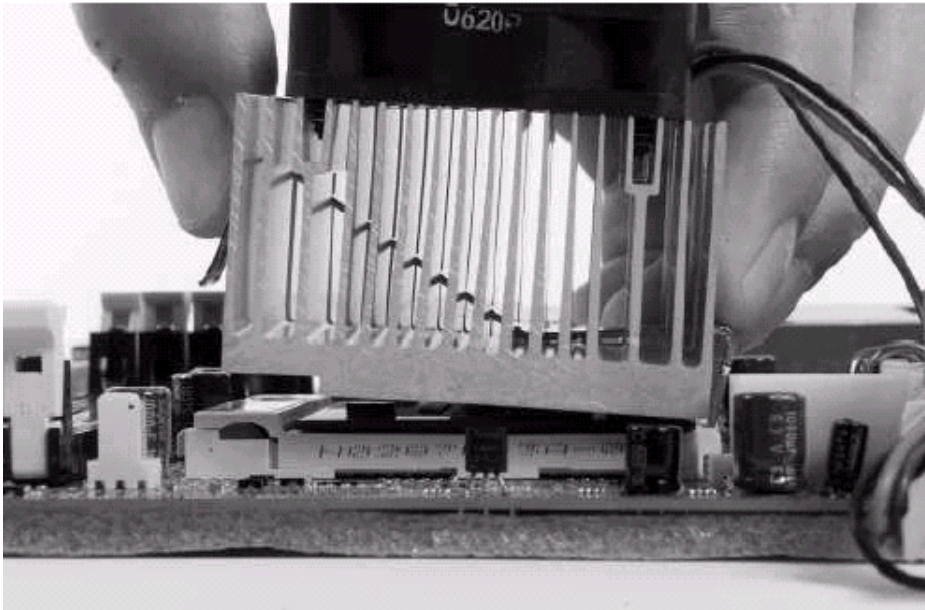
3. To install this clip, push firmly only on the end of the clip. To install the clip, typically requires 12 to 24 pounds of force.

Push downward.

Use caution!
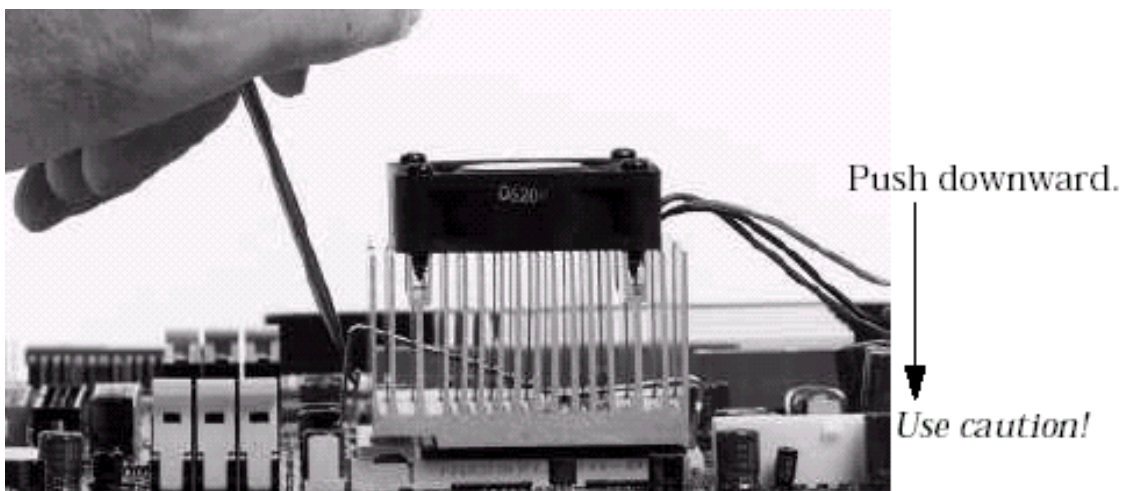
4. The fans power connector should be connected to CPUFAN1.
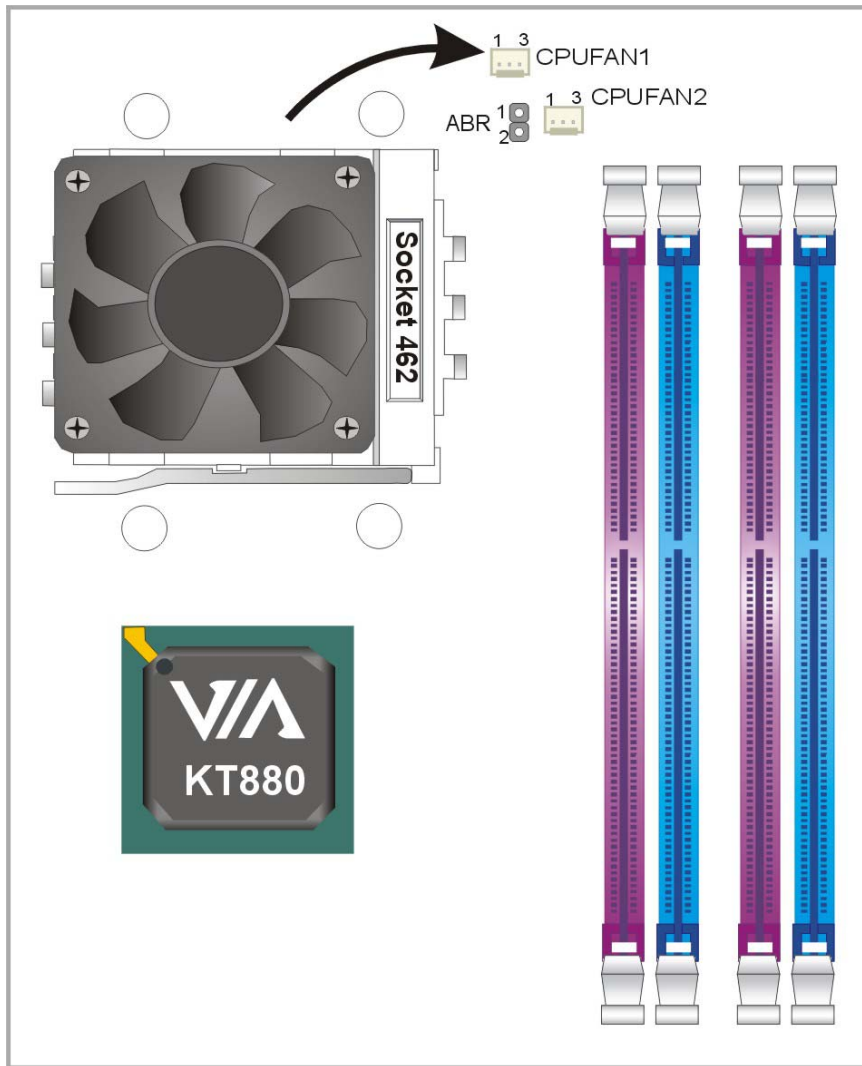
Note: If the fan is defective or Power connector is not connected to CPUFAN1, the system will enable Fan Off Control function. See page 20 for more information on FOC function.

When the CPU temperature exceeds the temperature set in the CPU Temp. Protection in the BIOS setup, SOYO's Anti burn Regulator (ABR) will automatically shutdown the system and beep until the power button is pressed for one time. For more info about ABR, check page 25.

FOC (Fan-Off Control)

The newly designed SOYO "FOC" is based on the concept of total protection for CPU, which is very different from currently seen on the market. The H/W control function is used to see a passive security system of monitoring and warning. S/W Simultaneous Signal Follow-ups techniques and Auto Power Off System are included to prevent all possible damage caused by the malfunctioning of the CPU fan. With the help of "O/S On Time Monitoring And Warning" function, provided by the H/W monitoring system, the double-protection purpose is achieved.

 "FOC" includes the following functions:
   (1) Simultaneous Signal Follow Ups**:** Before the system enters the O/S, H/W will detect the signals of the CPU fan pins, get their revolution information and send it to the BIOS.
   (2) Auto Power Off System: If the BIOS receives the information of CPU fan revolution, it continues to function normally. If no signal is received, it will inform the system and disconnects the power supply immediately to protect the CPU from overheating.

*Note***:** The following must be observed to secure the normal functioning of "Fan-Off Control":
   1. FOC only works on CPUFAN 1.
   2. CPU fan with sensor pins must be used.
   3. CPU fans approved by AMD are strongly recommended.

The "HOT KEY" function is provided for the CPU fans without sensor pins, to avoid the power off. Users may press the "Insert" key to jump over the "Power Off" mode; go to the BIOS and disable "FOC". Now system can be booted normally.

We provide the following user-friendly protection features:
   1. Fan-Off Control: The motherboard detects the status of the CPU fan and protects the CPU by automatically disconnecting the power supply. The default value of this function is Enable. After booting

up, the user may disable it.

2. Heat Dissipation Paste: Heat Dissipation Paste is included for all Socket-A motherboards, to enhance the heat dissipation capability.

Furthermore, we strongly recommend our users to enable the function of H/W monitoring in the BIOS. This function, together with the FOC, provides the total protection to the CPU and allows it to maximize its performance.

ABR (Anti Burn Regulator)
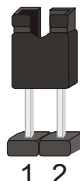
SOYO's ABR (Anti Burn Regulator) is specially designed hardware circuits that works hand in hand with the CPU's internal sensor in monitoring the temperature of the CPU and prevent it from overheating.

Once the heat accumulated in the CPU is over the set limit. ABR will automatically shut down the system power and warns you with a beeping sound. To de-activate the beeping sound, **un-plug the AC power cord.** We recommend you to check the cause of the overheating and let the processor cool down before powering on the system.

> *Note:* **ABR supports AMD XP and Morgan CPU. Duron and Thunderbird CPU are not supported**

Some early versions of the 2400+ and 2600+ XP CPUs when used in this motherboard will automatically activate the ABR function, thus making a beeping sound and shut down your system. If this compatibility issue arises, you need to disable the ABR function via the ABR hardware jumper.

Setting	Enabled	Disabled
ABR Jumper	1 2	1 2

Step 2 Install Memory Module
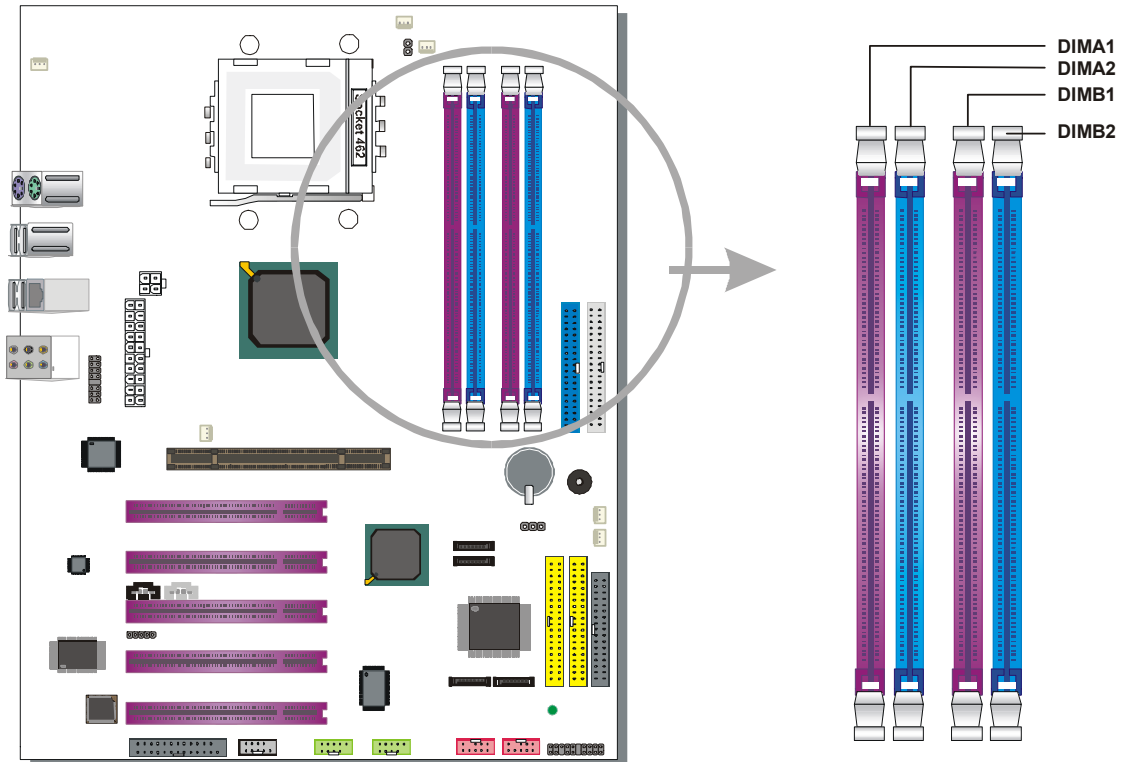
This motherboard supports two Dual Channels to your memory. Note that you can use normal DDR memory for Dual Channel to work. Also note that for Dual Channel to work 2 or 4 modules of equal size and specifications have to be installed.

The largest memory capacity possible is 4GB. On this motherboard, DRAM speed can be set independent from the CPU front side bus speed. Note that when installing 4GB of memory, your total memory will be less than 4GB. The reason for this is that the BIOS, PCI and AGP cards claim part of your CPUs address space.

Memory Configuration Table

If you want to use the Dual Channel feature, please follow the memory configuration table below:

DIMM No. / Performance	DIMA 1	DIMA 2	DIMB 1	DIMB 2
128 bit	Present		Present	
128 bit		Present		Present
128 bit	Present	Present	Present	Present

Step 3 Install Expansion Card

The motherboard has 1 AGP slot and 5 PCI slots.

1. Read the related expansion card's instruction document before inserting the expansion card into the computer.

2. Press the expansion card firmly into expansion slot in motherboard.

3. Be sure the metal contacts on the card are indeed seated in the slot.

4. Replace the screw to secure the slot bracket of the expansion card.

5. Install driver for the operating system you use.

NOTE: Some high-speed memory modules may need to be set "DDR Voltage Select" to 2.7V at BIOS when using.

AGP Pro Slot

This motherboard supports AGP 4x/8x/Pro VGA CARD.

DO NOT remove the safety tab underneath it if you will be using an AGP card without a retention notch. Removing may cause the card to shift and may cause damage to your card, slot, and motherboard. Remove ONLY when you will be using an AGP Pro card. You can use a pen tip to remove the tab from the bay.
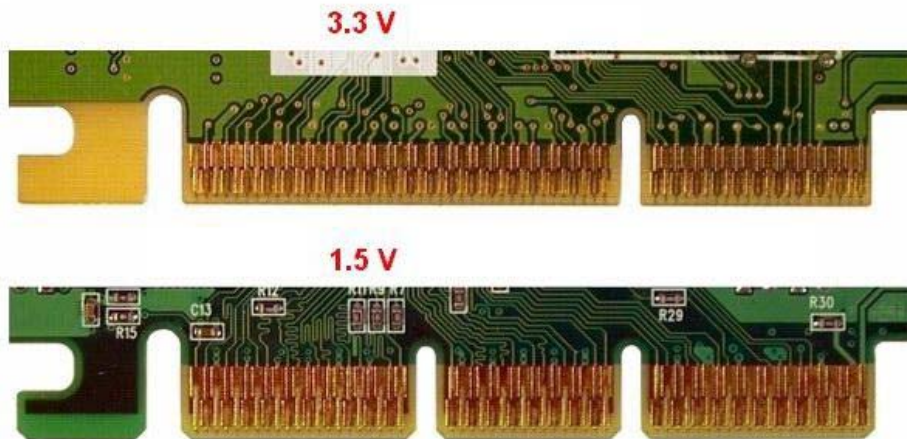
Step 4 Connect cables, case wires, and power supply
A. IDE Device Installation (HDD, CD-ROM)

IDE 1   IDE 2   Pin-1
Primary Secondary
IDE   IDE

Pin-1

IDE3 IDE4
RAID IDE

SATA2
SATA1

SATA3   SATA4
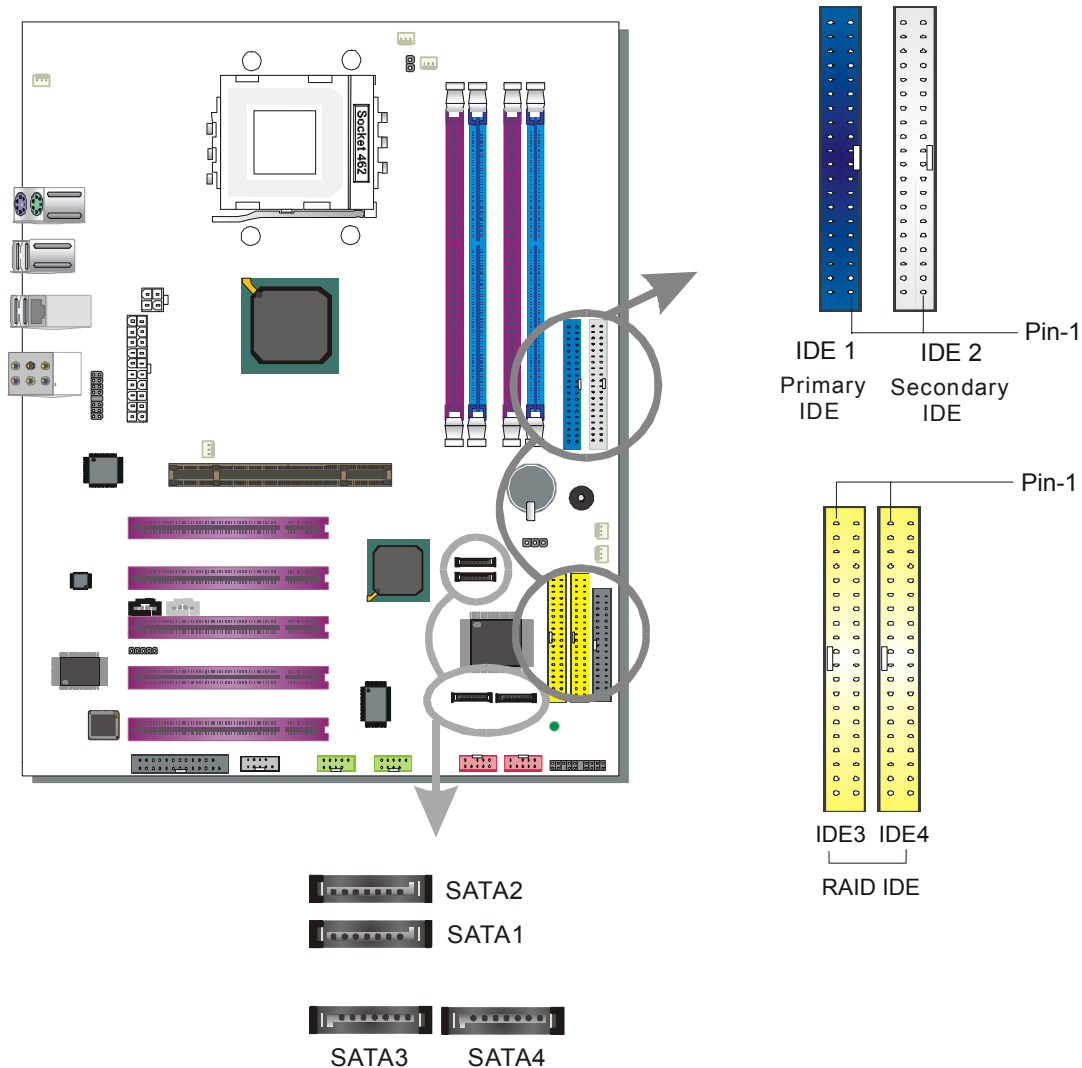
This Motherboard offers two primary (IDE1, IDE3) IDE device connectors, 2 secondary IDE device connectors (IDE2, IDE4) and 4 tertiary serial ATA ports. IDE1 and IDE2 can support up to four high-speed Ultra DMA 33/66/100/133 HDD or CD-ROM. IDE3 and IDE4 can support up to 4 high speed Ultra DMA 33/66/100/133 HDD. SATA1~4 can support up to 4 ATA 150 SATA hard disks.

There are 4 parallel ATA HDD connectors (IDE1, IDE2, IDE3, IDE4) and 4 serial ATA connectors on the motherboard. SATA1, SATA2, SATA3 and SATA4 are provided for SATA RAID or standard SATA function. This Motherboard can support up to 12 HDDs.

> *Note:*.
> *Creating a RAID 0, 1, 0+1 array on IDE3/IDE4 is possible*
> *Creating a RAID 0, 1 array on SATA1/SATA2 is possible.*
> *Creating a RAID 0, 1 array on SATA3/SATA4 is possible.*

Parallel ATA connectors

Connect the black end of the ATA66/100/133 flat cable to the IDE device (HDD or CD-ROM) and plug the blue end to the primary (IDE1, IDE3) or secondary (IDE2) directionally keyed IDE connector on the Motherboard. The ATA66/100/133 cable is backward compatible with ATA33 HDDs.
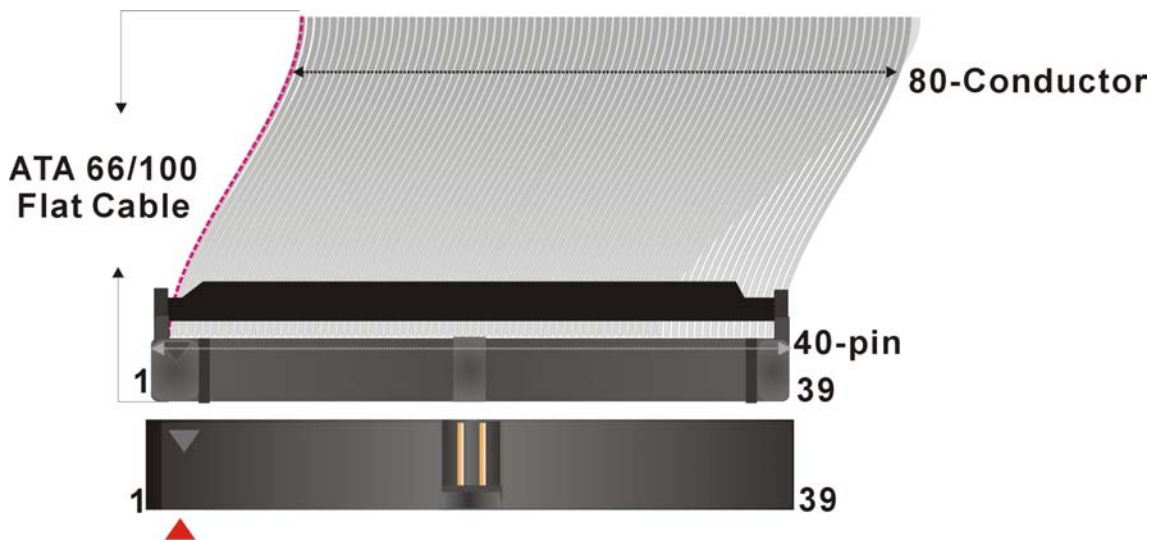
Serial ATA connectors

You can also plug the serial ATA cable into the serial ATA connector of the motherboard. The other end of the SATA cable goes into your SATA device.

B. Floppy Drive Installation

Pin-1

FLP
Floppy Driver
Connector
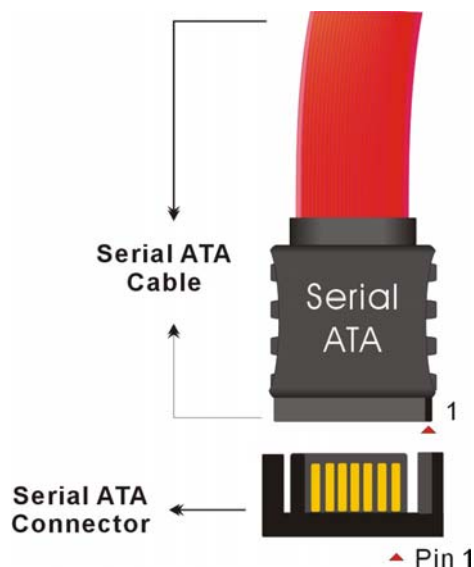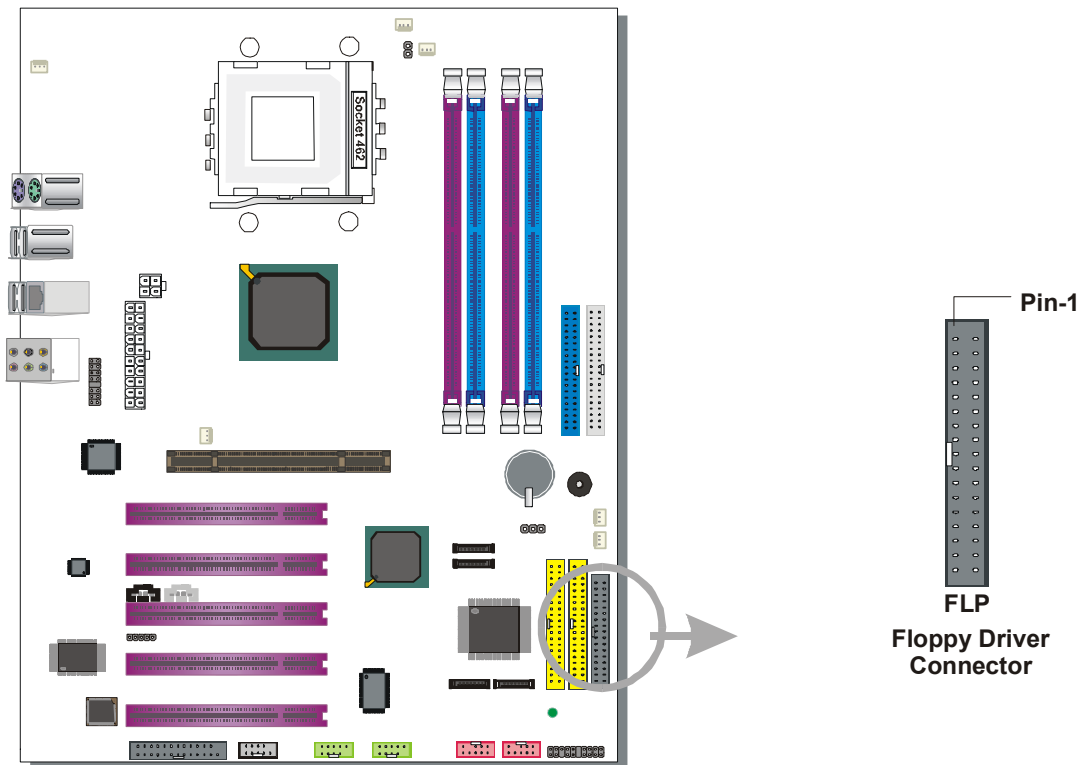
The system supports 4 possible floppy drive types: 720 KB, 1.2 MB, 1.44 MB, 2.88 MB.

Connect one side of the 34-pin flat cable to the floppy drive and plug the other end to the floppy drive connector on the motherboard.

This motherboard can support only 1 floppy drive.

C. Front Panel Connections
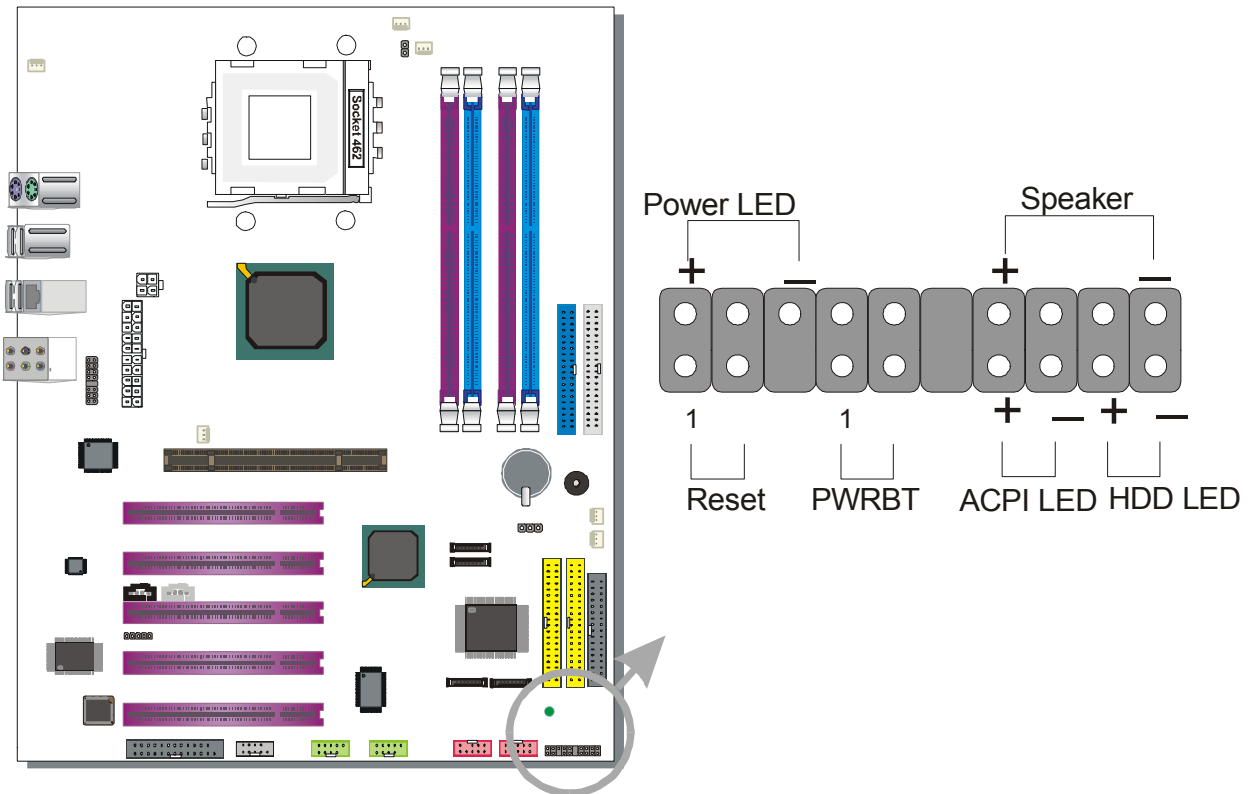
Plug the computer case's front panel devices to the corresponding headers on the motherboard.

1. Power LED

Please install according to the following pin assignment: pin 1,3 are for Power LED.
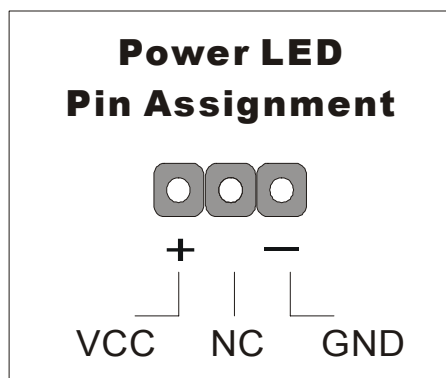
2. Reset

Plug the Reset push-button cable into the 2-pin Reset header on the motherboard. Pushing the Reset button on the front panel will cause the system to restart the boot-up sequence.

Reset Pin Assignment

1

Power Good   GND
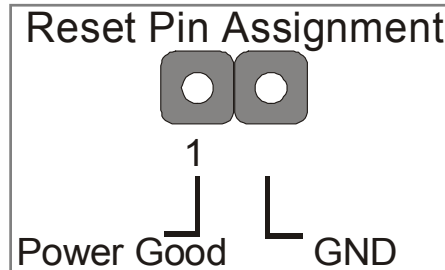
3. Speaker

Attach the 4-pin PC speaker cable from the case to the Speaker header on the motherboard.

Speaker Pin Assignment

+   —

VCC   NC NC   Speaker out
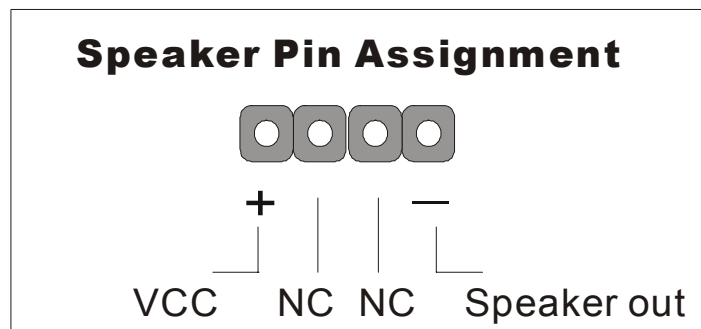
4. IDE LED

Attach the 2-pin IDE device LED cable to the corresponding IDE LED header on the motherboard. This will cause the LED to light up when an IDE device (HDD, CD-ROM) on IDE 1,2 or SATA 1,2 device is active.

HDD LED Pin Assignment

+   —

LED Anode LED Cathode
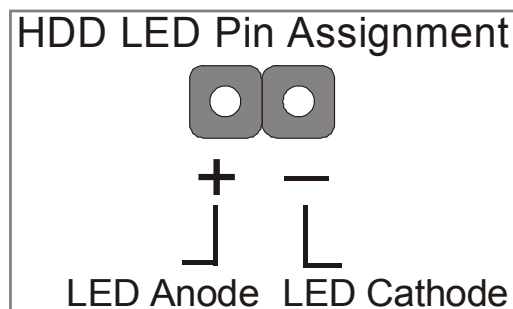
5. ATX Power On/Off Switch

Attach the 2-pin momentary type switch to the PWRBT header for turning ON or OFF your ATX power supply.

PWRBT Pin Assignment

1

Power On/Off   GND
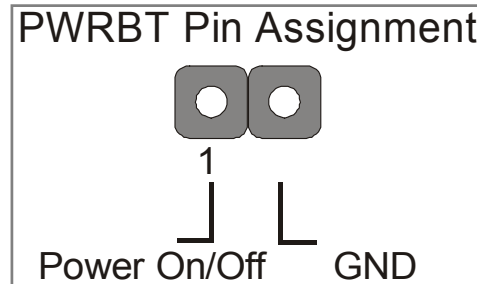
D. Back Panel Connections

All external devices such as the PS/2 keyboard, PS/2 mouse, USB can be plugged directly onto the motherboard back panel.

Only after you have fixed and locked the motherboard to the computer case can you start connecting the external peripheral devices.

When connecting an external device, use the following figure to locate and identify which back panel connector to plug the device to.

PS/2 KB   PS/2 Mouse
Connector Connector

USB3 / USB4

USB1 / USB2 / LAN

CENTER/Bass
Surround
Back Surround
MIC IN
Line out / Front out
Line in

Socket 462

Pin 1

2 10
1 9

Printer Port (LPT)   COM Port
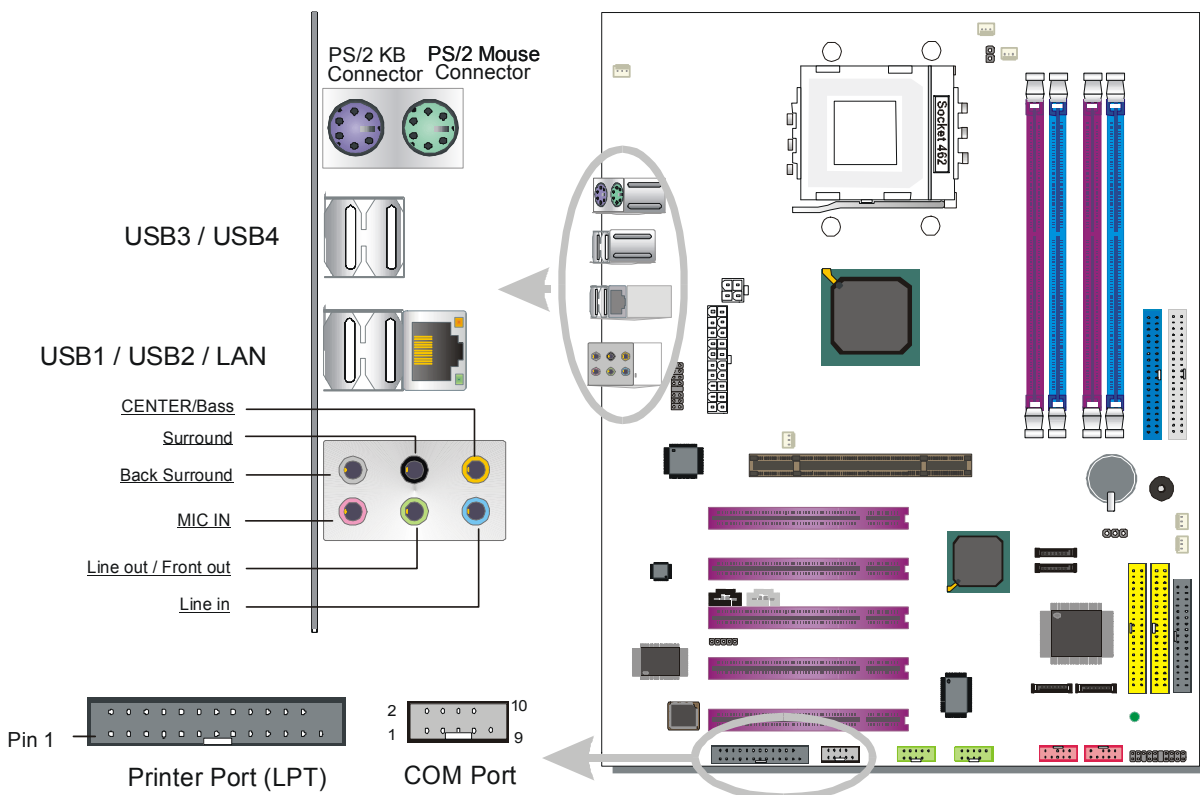
1.   Onboard Serial Ports (COM)

External peripherals that use serial transmission scheme include:

- serial mouse

- modem

Plug the serial device cables directly into the COM1/COM2 9-pin male connectors located at the rear panel of the motherboard.

COM Pin Assignment

NDCD# — 1		2 — NDSR1#
NRXD1 — 3		4 — NRTS1#
NTXD1 — 5		6 — NCTS1
NDTR1# — 7		8 — NRI1#
GND — 9		
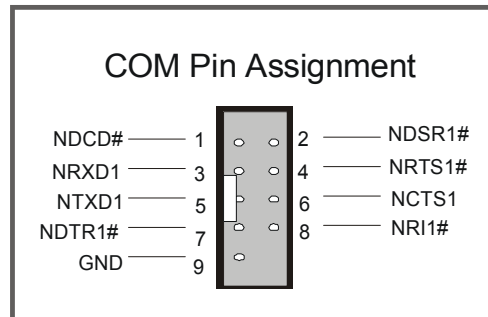
2.   Parallel Port PRT (LPT)

This parallel port is used to connect the printer or other parallel devices. Plug the parallel device cable into the 25-pin female connector located at the rear panel of the motherboard.

LPT Pin Assignment

-STB — 1	14 — AFD#
PRD0 — 2	15 — ERR#
PRD1 — 3	16 — INIT#
PRD2 — 4	17 — SLIN#
PRD3 — 5	18 — GND
PRD4 — 6	19 — GND
PRD5 — 7	20 — GND
PRD6 — 8	21 — GND
PRD7 — 9	22 — GND
ACK# — 10	23 — GND
BUSY — 11	24 — GND
PE — 12	25 — GND
SLCT — 13	
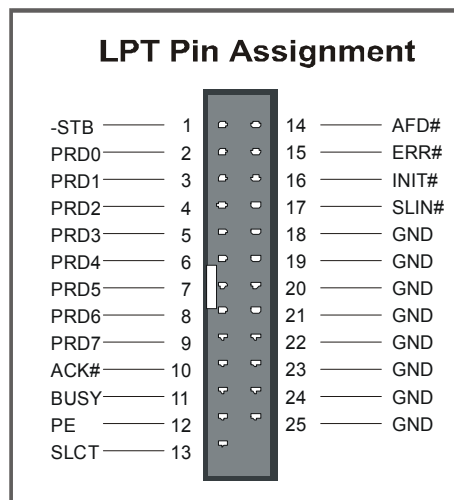
3.   PS/2 Keyboard

Plug the keyboard jack directly into the 6-pin female PS/2 keyboard connector located at the rear panel of the motherboard.

```
        Pin6              Pin5
         NC             KBD Clock

   Pin4                      Pin3
   VCC                       GND

        Pin2              Pin1
         NC            KBD DATA
```
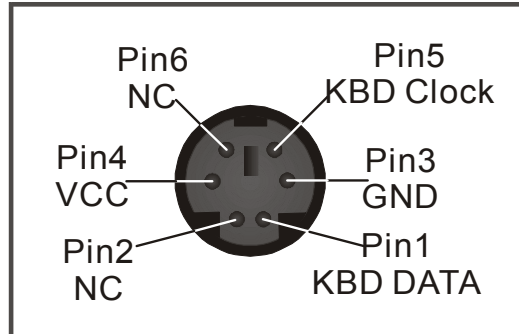
4.   PS/2 Mouse

Similarly, plug the mouse jack directly into the 6-pin female PS/2 mouse connector.

```
        Pin6              Pin5
         NC            Mouse Clock

   Pin4                      Pin3
   VCC                       GND

        Pin2              Pin1
         NC            Mouse DATA
```
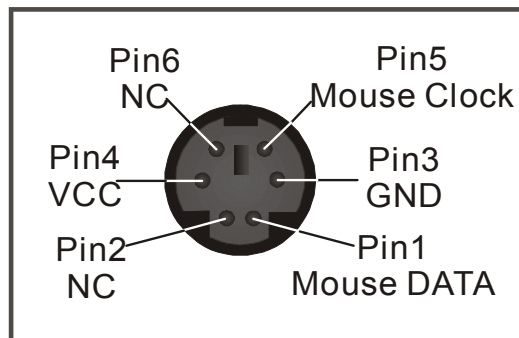
5. Universal Serial Bus (USB1/USB2/USB3/USB4, USB20_1/USB20_2)

This motherboard provides eight USB ports for your additional devices. Plug the USB device jack into the available USB connector USB1/USB2/USB3/USB4.

-       Standard device drivers come with the Win98 for commonly used USB devices.

-       With Win95, use the flow UHCI specifications. To use USB devices under Win95, usually you have to install the device that driver comes with the USB device you have purchased.

USB20_1 and USB20_2 are available. To make use of these USB ports, purchase a USB cable from your dealer. The lay-out of USB20_1, USB20_2 are as follows:

```
        GND ——10  [ O ]
        GND —— 9  [ O    O ] 4 —— GND
     (+)Data —— 8  [ O    O ] 3 —— (+)Data
     (-)Data —— 7  [ O    O ] 2 —— (-)Data
       Power —— 6  [ O    O ] 1 —— Power
```
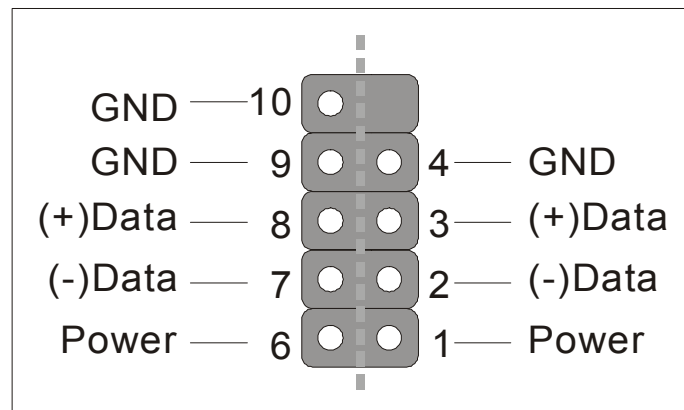
USB1, USB2, USB3, USB4, USB20_1 and USB20_1 supports USB 2.0 devices.

6. Onboard audio (Audio Speakers connections)

When using 2-channel speaker, connect the speaker cable to Line-out.

If you're using 2, 4, 6 or 8 channel speaker, make sure that the audio software is set for 2, 4, 6 or 8 channel speaker system.

CENTER/Bass ——————— ⬤ ⬤ ——————— Line in

Surround ——————— ⬤ ⬤ ——————— Line out / Front out

Back Surround ——————— ⬤ ⬤ ——————— MIC IN
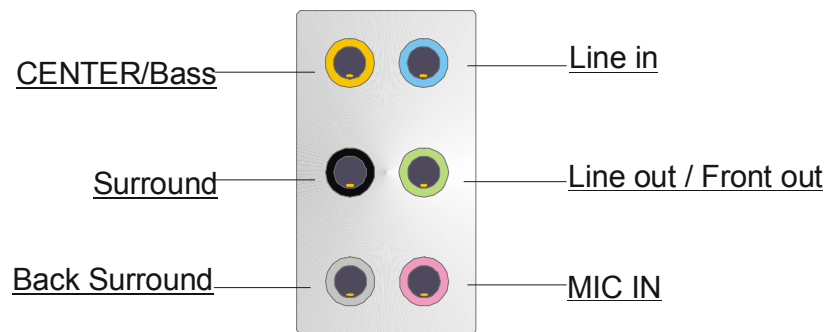
Note: When using SPDIF, please make sure to set the audio software for SPDIF, and CENTER/Bass (orange color) will be the optical Line out. Lin in (blue color) will be the optical Line-in.

E. Other Connections

1.　Standard Infrared (SIRCON)

Plug the 5-pin infrared device cable to the SIRCON header.
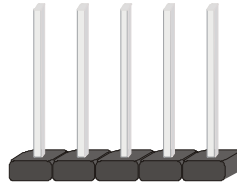
This will enable the infrared transfer function. This motherboard meets both the ASKIR and HPSIR specifications.

Please install according to the following pin assignment:

**Standard Infrared (SIRCON) Connector
SIRCON Pin Assignment**

1　2　3　4　5

VCC　　IRRX　GND　IRTX
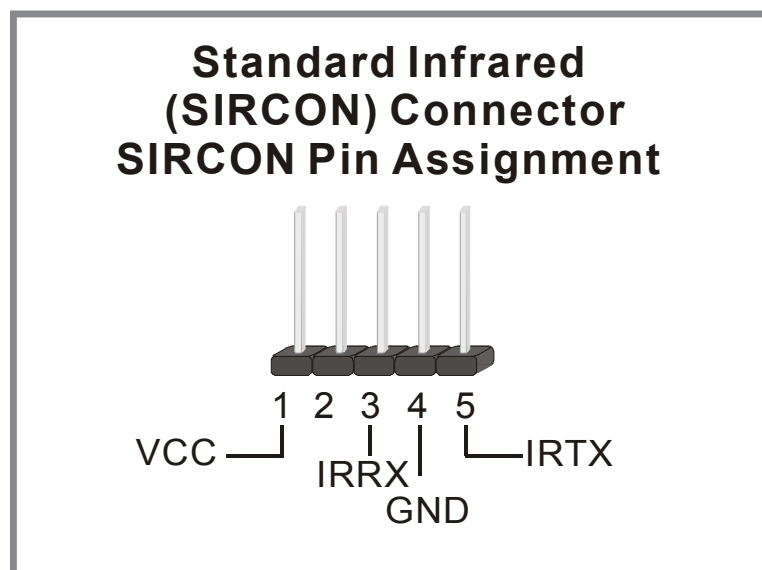
2. Cooling Fan Installation
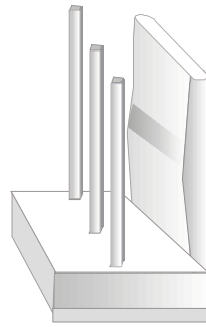
(1) CPU Cooling FAN (CPUFAN1, CPUFAN2, CPUFAN3)

After you have seated the CPU properly on the processor, attach the 3-pin fan cable to the CPUFAN1 connector on the motherboard.

To avoid any damage to the system, install according to the following pin assignment:
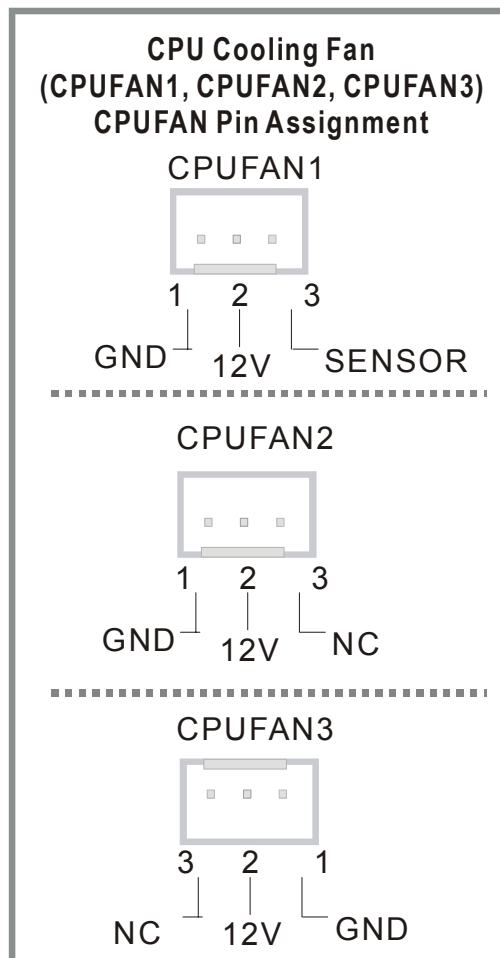
(2) Chassis Cooling Fan (CHAFAN1,CHAFAN2, CHAFAN3)

Some chassis also feature a cooling fan. This motherboard features a CHAFAN connector to provide 12V power to the chassis fan. Connect the cable from the chassis fan to the CHAFAN 3-pin connector. Install according to the following pin assignment:

Classis Cooling Fan
(CHAFAN1, CHAFAN2, CHAFAN3)
CHAFAN Pin Assignment

CHAFAN1

1 — GND
2 — 12V
3 — SENSOR

CHAFAN2

3 — NC
2 — 12V
1 — GND

CHAFAN3

1 — GND
2 — 12V
3 — NC
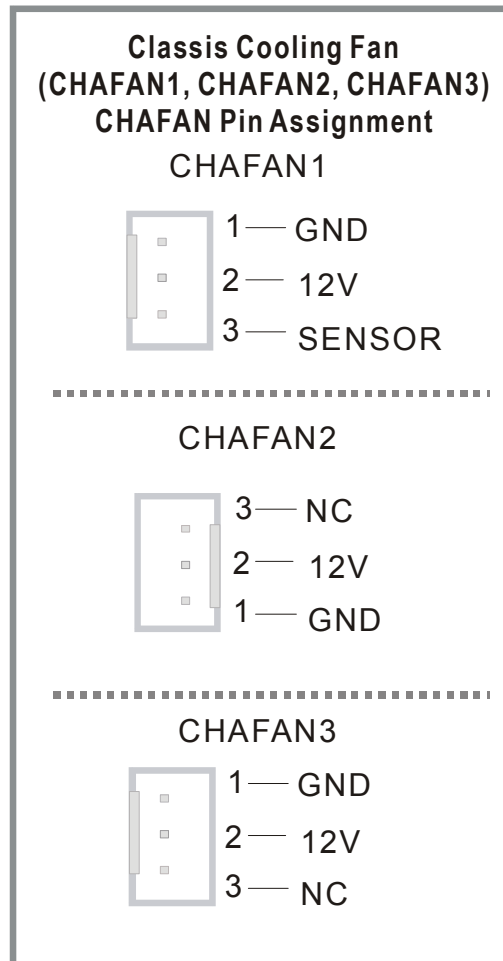
Note: CPUFAN must be installed on this motherboard, while CHAFAN is optional.

3. CD Line-in/AUXIN (CDIN1,AUXIN1)

This motherboard provides two CD-Line in connectors. Please connect the 4-pin audio cable from your CD-ROM drive to either CDIN1 or AUXIN1. (It fits in only one, depending on the cable that came with your CD-ROM drive)

Please install according to the following pin assignment:
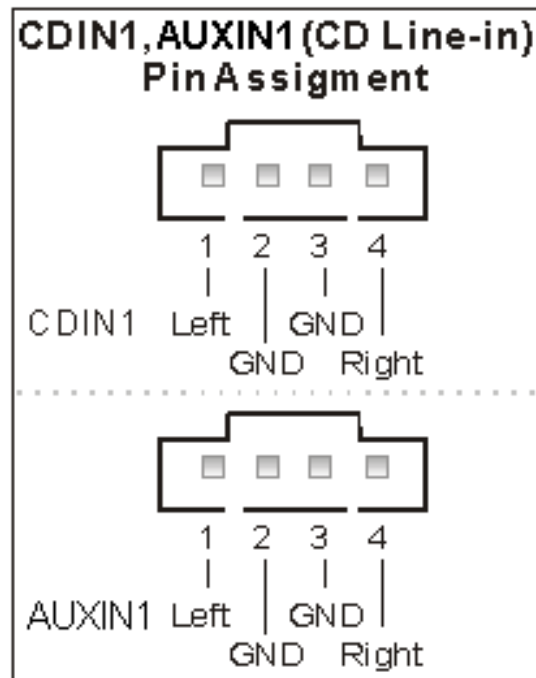
4. Front panel I/O Connector (J30)

You can connect the Line-out /MIC in to the front panel of your PC case (If this option is available in your PC case). When you connect this J30, please make sure J30 and your cable connector pin definitions to match. This connector has the following pin assignment:

```
MIC_L —— 1  [o o]  2 —— GND
MIC_R—— 3  [o o]  4 —— VCC
AUD_F_R—— 5 [o o] 6 —— AUD_R_R
HP_ON—— 7  [o o]  8 —— GND
AUD_F_L—— 9 [o o] 10 —— AUD_R_L

LINE_I_R——13 [o o]14 —— LINE_R_R
LINE_I_L——15 [o o]16 —— LINE_R_L
```
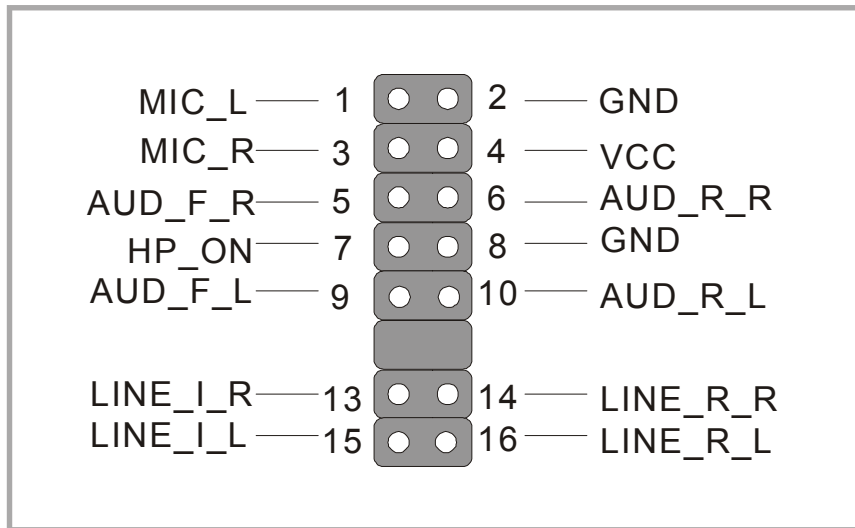
7.   IEEE 1394 (Firewire) Connector (FW1/FW2)

This motherboard provides 3 IEEE 1394 ports for your Firewire devices. Standard drivers are supplied with the operating system for commonly used Firewire devices.

FW1 and FW2 are available. You can connect them to a 1394 bracket or Σ BOX to use them. The layout out of the FW1 and FW2 Firewire connector is as follows:

```
         FW1 Pin Assignment

   CGND —10                    5 —— PWR0
   PWR0 — 9
   B0MC — 8                    3 —— B0PC
   CGND — 7                    2 —— GND
   A0MC — 6                    1 —— A0PC

   . . . . . . . . . . . . . . . . . . . . . . . . . . . .

         FW2 Pin Assignment

   CGND —10                    5 —— PWR1
   PWR1 — 9
   B1MC — 8                    3 —— B1PC
   CGND — 7                    2 —— GND
   A1MC — 6                    1 —— A1PC
```
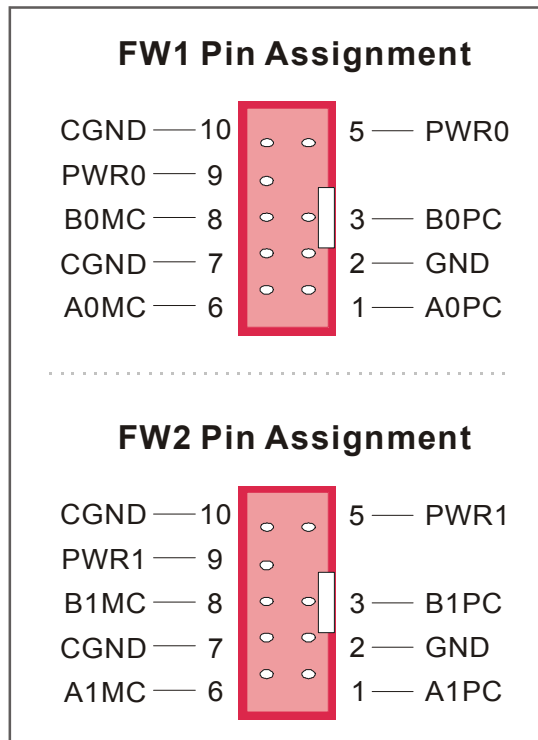
F. ATX12V Power Supply

The power supply connector is the last connection to be made when installing a motherboard. This motherboard requires an ATX 12V power supply. AT or ATX power supplies cannot be used. We recommend a power supply of at least 350W, or 400W under full loading.

ATX Power

+12V Power Connector

5VSBLED
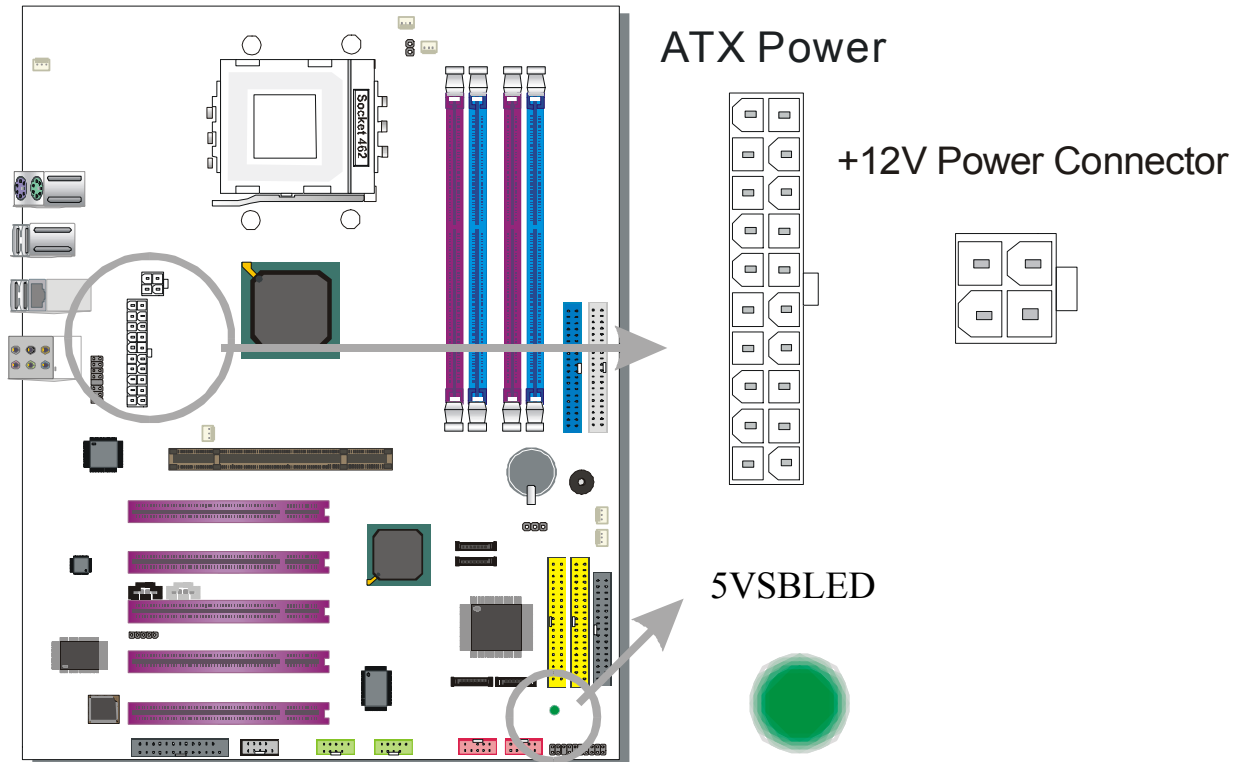
Steps:

1. Connect the 20 pin connector to the ATX power connector. See FIG. 1.
2. Connect the 4 pin connector to the +12V power connector. See FIG. 2.

> *Note 1: The presence of the +12V power connector indicates that a power supply is ATX12V; the absence of the +12V power connector indicates that a supply is ATX.*

> *Note 2: When using the Power-On by Keyboard function, please make sure the ATX 12V power supply is able to provide at least 1220mA on the 5V Standby lead (5VSB).*

Note 3: The minimum recommended wattage is 400W for a fully loaded system or 350W for a minimally loaded system, the system might become unstable if power supply is not enough

Note 4: The 4 pin ATX 12V must be connected to the motherboard. Without this connector, the system cannot boot.

The KT880 DRAGON 2 requires a power supply that is approved by AMD, of at least 350W. Go to http://www.amd.com for more info on approved power supply. Make sure the ATX power supply can take at least 720 mA * load on the 5V Standby lead (5VSB) to meet the standard ATX specification.

* Note: If you use the Wake-On-LAN (WOL`) function, make sure the ATX power supply can support at least 720 mA on the 5V Standby lead (5VSB). Please install the ATX power according to the following pin assignment:

ATX Power

12V		5V
5VSB		5V
PW-OK		-5V
GND		GND
5V		GND
GND		GND
5V		PS-ON
GND		GND
3.3V		-12V
3.3V		3.3V
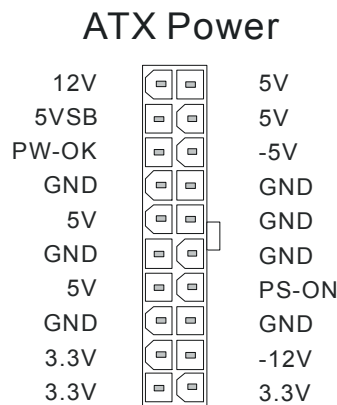
➢ **Pay special care to the directionality.**

Pin1 Pin3

COM

+12VDC
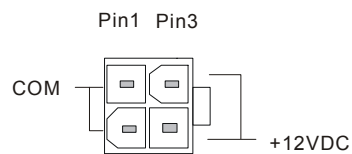
+12V Power Connector
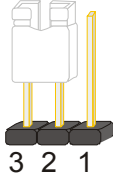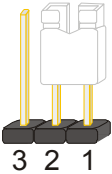
FIG. 1   **FIG. 2**

G. CMOS Clear (JP5)

In some cases the CMOS memory may contain wrong data, follow the steps below to clear the CMOS memory.

1. Put the jumper back to 1-2 to allow writing of new data into the CMOS memory.

2. Clear the CMOS memory by momentarily shorting pin 2-3 on jumper JP5. This jumper can be easily identified by its white cap.

CMOS Clearing	Clear CMOS Data		Retain CMOS Data	
JP5 Setting	Short pin 2-3 for at least 5 seconds to clear the CMOS	3 2 1	Short pin 1-2 to retain new settings	3 2 1
Note: You must unplug the ATX power cable from the ATX power connector when performing the CMOS Clear operation.				

Step 5 Power On

You have now completed the hardware installation of your KT880 DRAGON 2 successfully.

1. Turn the power on.

2. It takes awhile to boot-up to the system. You will hear 3 beeps before seeing a display on the screen.

3. To enter the BIOS Setup Utility, press the <DEL> key while the system is performing the diagnostic checks

> *Note:* If you have failed to enter the BIOS, wait until the boot up sequence is completed. Then push the RESET button and press <DEL> key again at the beginning of boot-up, during diagnostic checks.

Repeat this operation until you get the following screen.

4. The BIOS Setup screen appears:

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.

    ▶ SOYO COMBO Feature          ▶ BIOS Security Features

    ▶ Standard BIOS Features         Load Failsafe Defaults

    ▶ Advanced BIOS Features         Load Optimal Defaults

    ▶ PCI/PNP Resource Management    Discard Changes

    ▶ PC Health Status               Save Changes and Exit

    ▶ Boot Configuration Setup       Discard Changes and Exit



 ↑ ↓ ← →:Move  Enter:Select  +/-/: Value  F10: Save  ESC: Exit  F1: General Help
  F7: Previous Values  F8: Fail-Safe Defaults  F9: Optimized Defaults

```

2-3 QUICK BIOS SETUP

After the hardware installation is completed, turn the power switch on, then press the **<DEL>** key during the system diagnostic checks to enter the AMIBIOS Setup program. The CMOS SETUP UTILITY will be shown on the screen. Follow these steps to configure the CPU settings.

Step1. **Select [STANDARD BIOS Features]**

Set [Date/Time].

Step2. **Select [LOAD Optimal Defaults]**

Select the "LOAD Optimal Defaults" menu and press [OK] to load the BIOS optimal setup.

Step3. **Select [Save Changes and Exit]**

Select the "Save Changes and Exit" menu and press [OK] to save the new configuration to the CMOS memory, and continue the boot sequence.

Chapter 3

BIOS SETUP UTILITY

The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies the information to initialize all the components when booting up and basic functions of coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop your computer booting properly. If it happens, you can use the clear CMOS jumper to clear the CMOS memory which has stored the configuration information; or you can hold down the **Page Up** key while rebooting your computer. Holding down the **Page Up** key also clears the setup information.

You can run the setup utility and manually change the configuration. You might need to do this to configure some hardware installed in or connected to the mainboard, such as the CPU, system memory, disk drives, etc.

Every time you start your computer, a message appears on the screen before the operating system loading that prompts you to "*Hit <DEL> if you want to run SETUP*". Whenever you see this message, press the **Delete** key, and the Main menu page of the Setup Utility appears on your monitor.

CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.

▶ SOYO COMBO Feature	▶ BIOS Security Features
▶ Standard BIOS Features	Load Failsafe Defaults
▶ Advanced BIOS Features	Load Optimal Defaults
▶ PCI/PNP Resource Management	Discard Changes
▶ PC Health Status	Save Changes and Exit
▶ Boot Configuration Setup	Discard Changes and Exit

↑↓→←:Move Enter:Select +/-/: Value F10: Save ESC: Exit F1: General Help
F7: Previous Values F8: Fail-Safe Defaults F9: Optimized Defaults

You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Hold down the **Shift** key and press **F2** to cycle through the Setup Utility's optional color schemes.

Some options on the main menu page lead to tables of items with installed values that you can use cursor arrow keys to highlight one item, and press **PgUp** and **PgDn** keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer OK or Cancel.

If you have already changed the setup utility, press **F10** to save those changes and exit the utility. Press **F7** to reset the changes to the original values. Press **F9** to install the setup utility with a set of default values.

Hot Keys: Function keys give you access to a group of commands throughout the BIOS utility.

3-1 SOYO COMBO FEATURE

This Motherboard does not use any hardware jumpers to set the CPU frequency. Instead, CPU settings are software configurable with the BIOS **[SOYO COMBO Feature].**

After the hardware installation is complete, turn the power switch on, then press the <DEL> key during the system diagnostic checks to enter the AMIBIOS Setup program. The CMOS SETUP UTILITY will display on screen. Then, select the [SOYO COMBO Feature] option from the main menu and press the <Enter> key.

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                        SOYO COMBO Feature

 ▶ System Perf. & OverClocking [Press Enter]              Help Item

                                               Config. System Pref. &
   CPU Voltage Select          [Auto]          ClockGen Chipset
   DDR Voltage Select          [2.6V]
   AGP Voltage Select          [1.5V]

 ▶ Advanced Tune-up Settings    [Press Enter]

   OnBoard SATA 1, 2           [RAID]
   Onboard SATA/PATA 3, 4      [Enabled]
   Onboard 1394                [Enabled]
   OnBoard AC97 Audio          [Enabled]
   Onboard LAN                 [Enabled]


 ↑↓→←:Move  Enter:Select  +/-/:Value F10:Save  ESC:Exit  F1:General Help
    F7:Previous Values     F8:Fail-Safe Defaults   F9: Optimized Defaults
```

The [SOYO COMBO Feature] menu combines the main parameters that you need to configure, all in one menu, for a quick setup in BIOS.

SOYO COMBO Feature

	Setting	Description	Note
CPU Voltage Select	Auto	This function allows you to adjust the CPU voltage.	Default
	1.100V, 1.125V, 1.150V		
	1.175V, 1.200V, 1.225V		
	1.250V, 1.275V, 1.300V		
	1.325V, 1.350V, 1.375V		
	1.400V, 1.425V, 1.450V		
	1.475V, 1.500V, 1.525V		
	1.550V, 1.575V, 1.600V		
	1.625V, 1.650V, 1.675V		
	1.700V, 1.725V, 1.750V		
	1.775V, 1.800V, 1.825V		
	1.850V		
DDR Voltage Select	2.6 V	This function allows you to adjust the DIMM voltage.	Default
	2.65 V		
	2.7 V		
	2.8 V		
	2.9 V		
AGP Voltage Select	1.5 V	This function allows you to adjust the AGP voltage.	Default
	1.55 V		
	1.6 V		
	1.65 V		
	1.7 V		
	1.8 V		

	Setting	Description	Note
OnBoard SATA 1, 2	Disabled	Enabled/Disabled 8237 SATA 1, 2.	
	RAID		Default
	SATA		
Onboard SATA/PATA 3, 4	Disabled	Enabled/Disabled ALi SATA/PATA 3, 4.	
	Enabled		Default
Onboard 1394	Disabled	Enabled/Disabled onboard 1394.	
	Enabled		Default
Onboard AC 97 Audio	Disabled	Enabled/Disabled onboard AC97 Audio.	
	Enabled		Default
Onboard LAN	Disabled	Enabled/Disabled onboard LAN	
	Enabled		Default

3-1.1 Clock Generator Configuration

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                    System Perf. & OverClocking
┌─────────────────────────────────────────────┬──────────────────────┐
│                                              │      Help Item       │
│  Configure System Pref. & ICS94230 Clock     │                      │
│                                              │        Options       │
│    System Performance      [Normal]          │                      │
│    CPU Ratio Selection     [Auto]            │  Normal              │
│                                              │                      │
│    CPU FSB Select          [Auto]            │  Fast               │
│                                              │                      │
│    AGP/PCI Clock(Mhz)      66.66/33.33       │  Turbo              │
│                                              │                      │
│    Spread Spectrum         [Disabled]        │                      │
│    Auto PCI Clock          [Disabled]        │                      │
│                                              │                      │
│                                              │                      │
└──────────────────────────────────────────────┴──────────────────────┘
↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit F1:General Help
    F7:Previous Values      F8:Fail-Safe Defaults    F9: Optimized Defaults
```

System Perf. & OverClocking

	Setting	Description	Note
System Performance	Normal	Adjust your computer performance.	Default
	Fast		
	Turbo		
CPU Ratio Selection	Auto	The available CPU ratio you can select will depends on you CPU ID.	Default
	5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 9.5, 10.0, 10.5, 11.0, 11.5, 12.0, 12.5, 13.0, 13.5, 14.0, 15.0, 16.0, 16.5, 17.0, 18.0, 19.0, 20.0, 21.0, 22.5		
CPU FSB Select	Auto	Choose the pre-defined CPU frequency setting or auto for auto CPU Freq. detects. For experienced overcloker, set the field to "Manual" to overclock the CPU Freq. by 1 MHz stepping. Don't forget to set the correct CPU to PCI divider.	Default
	Manual		
	100 MHz		
	120 MHz		
	133 MHz		
	140 MHz		
	150 MHz		
	166 MHz		
	200 MHz		
If [CPU FSB Select] is set to [Manual]			
Frequency 1MHz Stepping	100~327	Press "Page Up" / "Page Down" key to Over Clock the CPU Front Side Bus in 1MHz increment or Press "Enter" key, then type the desired CPU Front Side Bus.	
CPU to PCI Divider	Auto	This option determines how fast your PCI slot run at; default PCI speed is 33MHz.	Default
	/3		
	/4		
	/5		
	/6		

	Setting	Description	Note
AGP/PCI Clock(Mhz)		Shows the current bus speed of AGP/PCI.	
Spread Spectrum	Enabled	This item allows you to Disabled/Enabled the spread spectrum modulate.	
	Disabled		Default
Auto PCI Clock	Enabled	When enabled, this item will auto detect if the PCI socket have devices and will send clock signal to PCI devices. When disabled, it will send the clock signal to all PCI socket.	
	Disabled		Default

3-1.2 Advanced Tune-up Settings

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                    Advanced Tune-up Settings
┌──────────────────────────────────────────────┬─────────────────────┐
│                                               │     Help Item       │
│ ******** DRAM Timing ********                 │                     │
│                                               │      Options        │
│ DRAM Frequency               [By SPD]         │                     │
│ Configure DRAM Timing by SPD [Auto By SPD]    │ By SPD              │
│ DRAM BUS Selection           [Auto]           │                     │
│                                               │ 200 MHz             │
│ Primary Graphics Adapter     [AGP]            │                     │
│ Vlink 8X Supported           [Enabled]        │ 266 MHz             │
│                                               │                     │
│ AGP Mode                     [AGP 4X]         │ 333 MHz             │
│ AGP Read Synchronization     [Disabled]       │                     │
│ AGP Fast Write               [Disabled]       │ 400 MHz             │
│ Graphics Aperture Size       [64MB]           │                     │
│ AGP Master 1 W/S Read        [Disabled]       │                     │
│ AGP Master 1 W/S Write       [Disabled]       │                     │
│ Fast Command                 [Normal]         │                     │
│                                               │                     │
├──────────────────────────────────────────────┴─────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit F1:General Help │
│   F7:Previous Values     F8:Fail-Safe Defaults    F9: Optimized Defaults │
└─────────────────────────────────────────────────────────────────────┘
```

DRAM Timing

	Setting	Description	Note
DRAM Frequency	By SPD	This item allows you to control the DRAM speed.	Default
	200 MHz		
	266 MHz		
	333 MHz		
	400 MHz		
Configure DRAM Timing by SPD	Auto By SPD	If chooses SPD, will auto detect the DRAM timing.	Default
	Manual		
	Turbo		
	Ultra		
DRAM BUS Selection	Auto	If Choose Auto, will auto detect DRAM BUS.	Default
	Single Channel		
	Dual Channel		

	Setting	Description	Note
Primary Graphics Adapter	AGP	This item indicates if the primary graphics adapter uses the PCI or the AGP bus. The default AGP setting still lets the onboard display work and allows the use of a second display card installed in an AGP slot.	Default
	PCI		
Vlink 8X Supported	Disabled	Increase system performance.	
	Enabled		Default

AGP Mode Control

	Setting	Description	Note
AGP Mode	1X	This item allows you to choose the AGP Mode.	
	2X		
	4X		Default
AGP Read Synchronization	Disabled	Enabled/Disabled AGP read synchronization capability.	Default
	Enabled		
AGP Fast Write	Disabled	Enabled/Disabled AGP fast write capability.	Default
	Enabled		
Graphics Aperture Size	32M	This item defines an AGP for the graphics. Leave this item at the default value 64MB.	
	64M		Default
	128M		
	256M		
AGP Master 1 W/S Read	Disabled		Default
	Enabled	When *Enabled,* read to the AGP (Accelerated Graphics Port) are executed with one wait states.	
AGP Master 1 W/S Write	Disabled		Default
	Enabled	When *Enabled,* writes to the AGP(Accelerated Graphics Port) are executed with one wait states.	
Fast Command	Normal	Increase system performance.	Default
	Fast		
	Ultra		

3-2 STANDARD BIOS FEATURES

Select the [Standard BIOS Features] option from the Main Menu and press [Enter] key.

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                      Standard BIOS Features

┌────────────────────────────────────────┬──────────────────────────┐
│ System Overview                         │        Item Help         │
│                                         │                          │
│ AMIBIOS                                 │                          │
│ Version     : K7V880-4AP1               │ Use [ENTER], [TAB] Or    │
│                                         │ [SHIFT-TAB] to Select a  │
│ Processor                               │ field.                   │
│ Type        : AMD Athlon(tm) XP         │                          │
│ Speed       : 2100MHz                   │                          │
│ Count       : 1                         │                          │
│                                         │ Use [+] or [-] to        │
│ System Memory                           │ Configure system Time.   │
│ Size        : 256MB                     │                          │
│                                         │                          │
│ System Time              [00:07:30]     │                          │
│ System Date              [Tue 01/01/2004]│                         │
└────────────────────────────────────────┴──────────────────────────┘
↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
    F7:Previous Values      F8:Fail-Safe Defaults     F9: Optimized Defaults
```

AMIBIOS

Version: SOYO bios version

Processor

Type: CPU type

Speed: CPU speed

Count: Processor number

System Memory

Size: Memory total size

System Time/System Date

	Display	Description	Note
System Time	hh:mm:ss	Display the current time.	
System Date	mm/dd/yyyy	Display the current day.	

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3-3   ADVANCED BIOS FEATURES

Select the [Advanced BIOS Features] option from the Main Menu and press [Enter] key.

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                    Advanced BIOS Features
┌─────────────────────────────────────────────────┬──────────────────────────┐
│ Advanced Settings                                │      Item Help           │
│                                                  │                          │
│ WARNING     :Setting wrong values in below sections│ Configure the IDE      │
│              May cause system to malfunction.    │ device(s).               │
│                                                  │                          │
│  ▶ IDE Configuration              [Press Enter]  │                          │
│  ▶ Floppy Configuration           [Press Enter]  │                          │
│  ▶ SuperIO Configuration          [Press Enter]  │                          │
│  ▶ ACPI Configuration             [Press Enter]  │                          │
│  ▶ APM Configuration              [Press Enter]  │                          │
│  ▶ MPS Configuration              [Press Enter]  │                          │
│  ▶ USB Configuration              [Press Enter]  │                          │
│                                                  │                          │
├─────────────────────────────────────────────────┴──────────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit F1:General Help      │
│   F7:Previous Values       F8:Fail-Safe Defaults    F9: Optimized Defaults   │
└─────────────────────────────────────────────────────────────────────────────┘
```

After you have completed the changes, press [Esc] key and follow the instructions on your screen to save your settings or exit without saving.

3-3.1 IDE Configuration

CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
IDE Configuration

IDE Configuration		Item Help
Onboard PCI IDE Controller	[Both]	DISABLED: disables the integrated IDE Controller.
▶ Primary IDE Master	[Not Detected]	
▶ Primary IDE Slave	[Not Detected]	
▶ Secondary IDE Master	[Not Detected]	PRIMARY: enables only the Primary IDE Controller.
▶ Secondary IDE Slave	[Not Detected]	
▶ Third IDE Master	[Not Detected]	
▶ Third IDE Slave	[Not Detected]	SECONDARY: enables only the Secondary IDE Controller.
▶ Fourth IDE Master	[Not Detected]	
▶ Fourth IDE Slave	[Not Detected]	
Hard Disk Write Protect	[Disabled]	BOTH: enables both IDE Controllers.
IDE Detect Time Out (Sec)	[10]	
ATA(PI) 80Pin Cable Detect	[Host & Device]	

↑↓→←:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F7:Previous Values   F8:Fail-Safe Defaults   F9: Optimized Defaults

CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
Primary IDE Master

Primary IDE Master		Item Help
Device : ATAPI CDROM		
Vendor : YAMAHA AUDIOROM 5238E		Select the type of device connected to the system.
LBA Mode : Supported		
PIO Mode : 4		
Async DMA : MultiWord DMA-2		
Ultra DMA : Ultra DMA-2		
Type	[Auto]	
PIO Mode	[Auto]	
DMA Mode	[Auto]	

↑↓→←:Move Enter:Select +/-/:Value F10:Save ESC:Exit F1:General Help
F7:Previous Values   F8:Fail-Safe Defaults   F9: Optimized Defaults

IDE Configuration

	Setting	Description	Note
Onboard PCI IDE Controller	Disabled	disables the integrated IDE Controller.	
	Primary	enables only the Primary IDE Controller.	
	Secondary	Enables only the Secondary IDE Controller.	
	Both	enables both IDE Controllers.	Default
IDE Pri Master Pri Slave Sec Master Sec Slave Thi Master Thi Slave Four Master Four Slave		These items configure devices connected to the IDE channels. To configure an IDE hard disk drive.	
Hard Disk Write Protect	Disabled	Write protection for Disk Drives. This will be effective only if device is accessed through BIOS.	Default
	Enabled		
IDE Detect Time Out (Sec)	0	Timeout for detecting ATA/ATAPI device(s).	
	5		
	10		Default
	15		
	20		
	25		
	30		
	35		
ATA(PI) 80Pin Cable Detect	Host & Device	Detecting 80Pin ATA(PI) Cable.	Default
	Host		
	Device		

3-3.2 Floppy Configuration

CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
Floppy Configuration

Floppy Configuration		Item Help
Floppy A	[1.44 MB 3 $^1/_2$"]	Select the type of floppy drive connected to the system.

↑↓→←:Move Enter:Select +/-/:Value F10:Save ESC:Exit   F1:General Help
F7:Previous Values   F8:Fail-Safe Defaults   F9: Optimized Defaults

Floppy Drives

Floppy Drives	Setting	Description	Note
Drives A	Disabled		
	360KB, 5.25		
	1.2MB, 5.25		
	720KB, 3.5		
	1.44MB, 3.5		Default
	2.88MB, 3.5		

3-3.3 SuperIO Configuration

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                        SuperIO Configuration

 Configure ITE8705 Super IO Chipset                    Item Help

 OnBoard Floppy Controller        [Enabled]
 Serial Port1 Address             [3F8/IRQ4]     Allows BIOS to Enable or
 UART Mode Address                [Disabled]     Disable Floppy
 Parallel Port Address            [378]          Controller.
   Parallel Port Mode             [Normal]
   Parallel Port IRQ              [IRQ7]


 ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
    F7:Previous Values      F8:Fail-Safe Defaults    F9: Optimized Defaults
```

SuperIO Configuration

	Setting	Description	Note
OnBoard Floppy Controller	Disabled	Turn off the on-board floppy controller	
	Enabled	Use the on-board floppy controller	Default
Serial Port Address / UART Mode Address	Disabled		Default (UART Mode)
	3F8/IRQ4	Choose serial port's I/O address. Do not set port to the same address except for Disabled.	Default (Serial Port)
	2F8/IRQ3 (recommend for UART Mode)		
	3E8/IRQ4		
	2E8/IRQ3		
If [UART Mode Address] is set to [3F8/IRQ4 or 2F8/IRQ3 or 3E8/IRQ4 or 2E8/IRQ3]			
UART Mode Select	Standard	Allows BIOS to select UART Mode.	Default
	IrDA SIR (recommend)		
	ASK IR		

	Setting	Description	Note
Parallel Port Address	Disabled	Choose the parallel port's I/O address.	
	378		Default
	278		
	3BC		
Parallel Port Mode	Normal	The mode depends on your external device that connects to this port.	Default
	EPP		
	ECP		
	EPP & ECP		
If [Parallel Port Mode] is set to [EPP & ECP]			
ECP Mode DMA Channel	DMA0	Allows BIOS to Select Parallel Port ECP DMA.	
	DMA1		
	DMA3		Default
Parallel Port IRQ	IRQ7	Choose the parallel port's I/O IRQ.	Default
	IRQ5		

3-3.4 ACPI Configuration

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                          ACPI Configuration
┌─────────────────────────────────────────────┬──────────────────────────┐
│  General ACPI Configuration                  │      Item Help           │
│                                              │                          │
│  Suspend mode                   [S1 (POS)]   │  Select the ACPI state used│
│  USB Device Wakeup Function     [Enabled]    │  for System Suspend.     │
│                                              │                          │
│                                              │                          │
│                                              │                          │
│                                              │                          │
│                                              │                          │
│                                              │                          │
│                                              │                          │
└──────────────────────────────────────────────┴──────────────────────────┘
 ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
    F7:Previous Values      F8:Fail-Safe Defaults     F9: Optimized Defaults
```

ACPI Configuration

	Setting	Description	Note
Suspend Mode	S1 (POS)	Lets you set the system suspend mode.	Default
	S3 (STR)		
	S1 & S3		
IF [Suspend Mode] is set to [S3 (STR) / S1 & S3]			
Repost Video on S3 Resume	No	Determines whether to invoke VGA BIOS post on S3/STR resume.	
	Yes		Default
USB Device Wakeup Function	Disabled	Wakeup with USB device.	
	Enabled		Default

3-3.5 APM Configuration

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                        APM Configuration
```

Power Management/APM	[Enabled]	Item Help
Power Button Mode	[On/Off]	Options
Restore on AC/Power Loss	[Power Off]	Disabled.
Standby Time Out	[Disabled]	Enabled
Suspend Time Out	[Disabled]	
Hard Disk Time Out (Minute)	[Disabled]	
Green PC Monitor Power State	[Suspend]	
Video Power Down Mode	[Suspend]	
Hard Disk Power Down Mode	[Suspend]	
Advanced Monitor Events Control		
Display Activity	[Ignore]	
Monitor IRQ3	[Monitor]	
Monitor IRQ4	[Ignore]	
Monitor IRQ5	[Ignore]	
Monitor IRQ7	[Monitor]	
Monitor IRQ9	[Ignore]	
Monitor IRQ10	[Ignore]	
Monitor IRQ11	[Ignore]	
Monitor IRQ13	[Ignore]	
Monitor IRQ14	[Monitor]	
Monitor IRQ15	[Ignore]	
Advanced Resume Events Controls		
Resume On Ring	[Disabled]	
Resume On PME#	[Disabled]	
Resume On KBC	[S3]	
Wake-Up Key	[Any Key]	
Resume On PS/2 Mouse	[S3]	
Resume On RTC Alarm	[Disabled]	

```
↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
    F7:Previous Values    F8:Fail-Safe Defaults   F9: Optimized Defaults
```

APM Configuration

	Setting	Description	Note
Power Management/ APM	Enabled	Use this item to enable or disable a power management scheme. If you enable power management, you can use the items below to set the power management operation.	Default
	Disabled		
Power Button Mode	On/Off	Setting power button mode.	Default
	Standby		
	Suspend		
Restore on AC/Power Loss	Power Off	The system will remain off when power comes back after a power failure.	Default
	Power On	The system will switch on when power comes back after a power failure.	
	Last State	The system will return to the state it was in before the power failure when power returns. (i.e: If the system was on, it will switch on again, if it was off, it will remain off)	
Standby Time Out	Disabled	Lets you define the standby time out times.	Default
	1 Min, 2 Min, 4 Min, 8 Min, 10 Min, 20 Min 30 Min, 40 Min 50 Min, 60 Min		
Suspend Time Out	Disabled	Lets you define the suspend time out times.	Default
	1 Min, 2 Min, 4 Min, 8 Min, 10 Min, 20 Min 30 Min, 40 Min 50 Min, 60 Min		

	Setting	Description	Note
Hard Disk Time Out (Minute)	Disabled	Lets you define the Hard Disk time out times.	Default
	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15		
Green PC Monitor Power State	Standby	Setting Green PC Monitor Power State.	
	Suspend		Default
	Off		
Video Power Down Mode	Disabled	Setting Video Power Down Mode..	
	Standby		
	Suspend		Default
Hard Disk Power Down Mode	Disabled	Setting Hard Disk Power Down Mode.	
	Standby		
	Suspend		Default

Advanced Monitor Events Controls

	Setting	Description	Note
Display Activity	Ignore	Setting display activity state.	Default
	Monitor		
IRQs Activity Monitoring	Ignore	IRQ4, IRQ5, IRQ9, IRQ10, IRQ11, IRQ13, IRQ15	
	Monitor	IRQ3, IRQ7, IRQ14	

Advanced Resume Events Controls

	Setting	Description	Note
Resume On Ring	Disabled	Disable/Enable Ring to generate a wake event.	Default
	Enabled		
Resume On PME#	Disabled	Disable/Enable PME# signal to generate a wake event.	Default
	Enabled		
Resume On KBC	Disabled	The choice may by way of the KBC resume condition.	
	S3		Default
	S3/S4/S5		
Wake-Up Key	Any Key	Setting Wake-Up key.	Default
	Specific Key		
If [Wake-Up Key] is set to [Specific Key]			
Wake-Up Password	Press Enter	Setting specific wake-up password.	
Resume On PS/2 Mouse	Disabled	The choice may by way of the PS/2 Mouse resume condition.	
	S3		Default
	S3/S4/S5		
Resume On RTC Alarm	Disabled	Disable/Enable RTC to generate a wake event.	Default
	Enabled		

3-3.6 MPS Configuration

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                          MPS Configuration

  MPS Configuration                                        Item Help

  MPS Revision                          [1.4]




 ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
     F7:Previous Values      F8:Fail-Safe Defaults    F9: Optimized Defaults
```

MPS Configuration

	Setting	Description	Note
MPS Revision	1.4	Allows you to choose the	Default
	1.1	Multi-Processor Specification (MPS) version.	

3-3.7 USB Configuration

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                          USB Configuration

  USB Configuration                                        Item Help

  Module Version – 2.23.0-7.4
                                             Enables 1.1 USB host
                                             controllers.
  USB Device Enabled:
            None


  USB 1.1 Ports Configuration    [USB 8 Ports]
  USB 2.0 Ports Enable           [Enabled]
  Legacy USB Support             [Enabled]
  USB Storage Device Support     [Disabled]
  USB 2.0 Controller Mode        [HiSpeed]




 ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
     F7:Previous Values      F8:Fail-Safe Defaults    F9: Optimized Defaults
```

USB Configuration

	Setting	Description	Note
USB 1.1 Ports Configuration	Disabled	Configuration USB1.1 Host Controllers.	
	USB 2 Ports		
	USB 4 Ports		
	USB 6 Ports		
	USB 8 Ports		Default
USB 2.0 Ports Configuration	Enabled	Enabled/Disabled USB 2.0 Host Controllers.	Default
	Disabled		
Legacy USB Support	Enabled	Set this item to Enabled if using software (like DOS games) that needs a 'legacy' USB device.	Default
	Disabled		
USB Storage Device Support	Disabled	Enabled/Disabled support for USB mass storage devices.	Default
	Enabled		
USB 2.0 Controller Mode	FullSpeed	Configures the USB 2.0 controller in HiSpeed (480Mbps) or FullSpeed (12Mbps).	
	HiSpeed		Default

3-4 PCI/PNP RESOURCE MANAGEMENT

This option sets the Motherboard's PCI Slots.

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                    PCI/PNP Resource Management
```

Advanced PCI/PnP Settings		Item Help
WARNING: Setting wrong values in below sections May cause system to malfunction.		NO: lets the BIOS configure all the devices in system.
Plug & Play O/S	[No]	
PCI Latency Timer	[64]	YES: lets the operating system configure Plug and Play (PnP) devices not required for boot if your system has a Plug and Play operating system.
Allocate IRQ to PCI VGA	[Yes]	
PCI IDE BusMaster	[Disabled]	
IRQ3	[Available]	
IRQ4	[Available]	
IRQ5	[Available]	
IRQ7	[Available]	
IRQ9	[Available]	Size of memory block to reserve for legacy ISA devices.
IRQ10	[Available]	
IRQ11	[Available]	
IRQ14	[Available]	
IRQ15	[Available]	
DMA Channel 0	[Available]	
DMA Channel 1	[Available]	
DMA Channel 3	[Available]	
DMA Channel 5	[Available]	
DMA Channel 6	[Available]	
DMA Channel 7	[Available]	

```
↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
   F7:Previous Values      F8:Fail-Safe Defaults      F9: Optimized Defaults
```

After you have completed the PCI Slot Configuration, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

Advanced PCI/PnP Settings

PNP/PCI Controls	Setting	Description	Note
Plug & Play OS	Yes	Lets the operating system configure Plug and Play (PnP) devices not required for boot if your system has a Plug and Play operating system.	
	No	Lets the BIOS configure all the devices in the system.	Default
PCI Latency Timer	32	Value in units of PCI clocks for PCI device latency timer register.	
	64		Default
	96		
	128		
	160		
	192		
	224		
	248		
Allocate IRQ to PCI VGA	Yes	Assigns IRQ to PCI VGA card if card requests IRQ.	Default
	No	Does not assign IRQ to PCI VGA card even if card requests an IRQ.	
PCI IDE BusMaster	Enabled	BIOS uses PCI busmastering for reading/writing to IDE devices.	
	Disabled		Default

3-5 PC HEALTH STATUS

This option sets the motherboard's PC Health Status.

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                        PC Health Status

  PC Health Status                                        Item Help

  H/W Health Function            [Enabled]
                                                   Enables Hardware Health
                                                   Monitoring Device.
  Hardware Health Event Monitoring
  FOC (Fan-Off Control)          [Enabled]
  ABR (Anti Burn Regulator)      [Default (85℃)]
  Vcore                          : 1.488V
  +3.3V                          : 3.248V
  +5V                            : 5.053V
  +12V                           : 12.032V
  DDR Voltage                    : 2.624V
  AGP Voltage                    : 1.488V
  CPU Temp. External             : 37℃/98°F
  CHA Temperature                : 35℃/95°F
  CPU Temp. On Die               : 43℃/109°F
  CPUFAN1 Speed                  : 4560 RPM
  CHAFAN1 Speed                  : N/A


  ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save   ESC:Exit   F1:General Help
     F7:Previous Values       F8:Fail-Safe Defaults    F9: Optimized Defaults
```

CPU Device Monitoring

	Setting	Description	Note
FOC (Fan-Off Control)	Disabled	If enable, this function protect user's CPU from overheating in an event there's a problem with the CPU FAN. The user should also plug the CPU FAN power on the CPU FAN1 pin. If not, system will auto shutdown.	
	Enabled		Default

	Setting	Description	Note
ABR (Anti Burn Regulator)	120°C/248°F	Set the CPU temperature for the system to shutdown.	
	115°C/239°F		
	110°C/230°F		
	105°C/221°F		
	100°C/212°F		
	95°C/203°F		
	90°C/194°F		
	85°C/185°F		
	80°C/176°F		
	75°C/167°F		
	70°C/158°F		
	65°C/149°F		
	60°C/140°F		
	55°C/131°F		
	50°C/122°F		
	Default (85°C)		Default
	Disabled		
Vcore, +3.3V, +5V, +12V, DDR Voltage, AGP Voltage	V	Show the current voltage status.	
CPU Temp. External	°C/°F	Show the current status of CPU temperature.	
CHA Temperature	°C/°F	Show the current status of the system temperature.	
CPU Temp. On Die	°C/°F	Show the current status of CPU Die temperature.	
CPUFAN1/ CHAFAN1 Speed	RPM	Show the current status of CPU/CHA Fan.	

3-6 BOOT CONFIGURATION SETUP

This option sets the Motherboard's Boot Configuration Setup.

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                    Boot  Configuration  Setup

  ▸ Boot Settings Configuration    [Press Enter]          Help Item

  ▸ Boot Device Priority           [Press Enter]   Configure Settings during
  ▸ Hard Disk Drives               [Press Enter]   System Boot.
  ▸ Removable Drives               [Press Enter]
  ▸ CD/DVD Drives                  [Press Enter]




↑↓→←:Move  Enter:Select  +/-/:Value   F10:Save  ESC:Exit  F1:General Help
    F7:Previous Values       F8:Fail-Safe Defaults     F9: Optimized Defaults
```
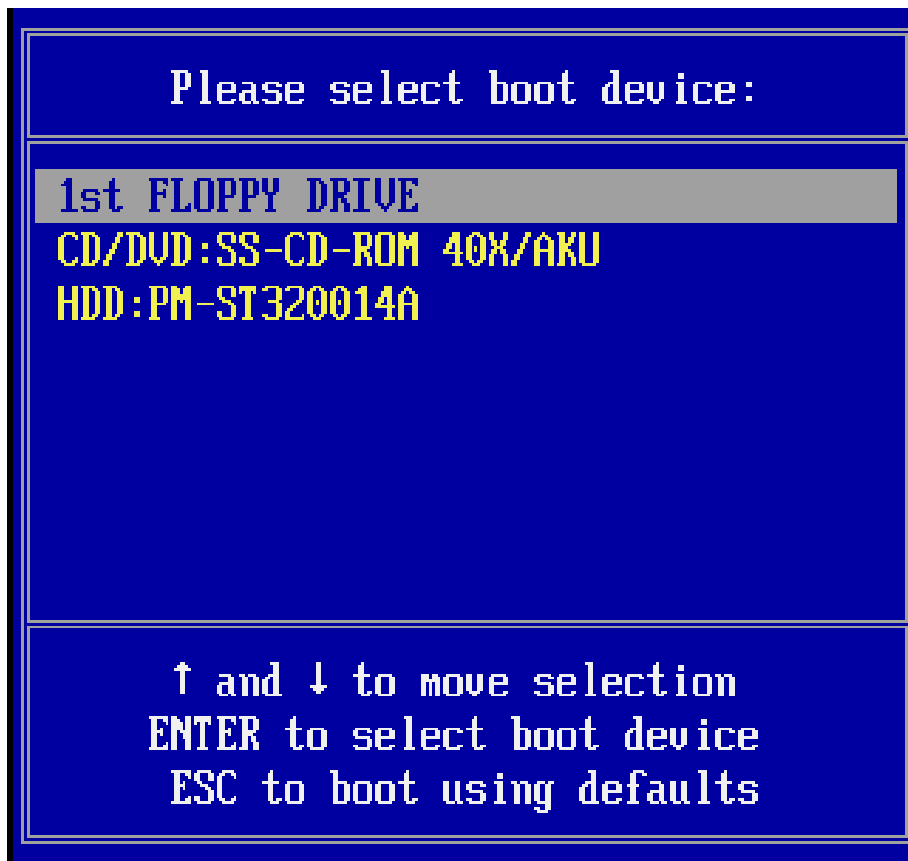
Note: When connects CD/DVD, only then can appear this row.

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                    Boot Settings Configuration

  Boot Settings Configuration                            Item Help

  Quick Boot                       [Enabled]
  Full Screen LOGO Show            [Enabled]      Allows BIOS to skip
  Bootup Num-Lock                  [On]           certain tests while
  PS/2 Mouse Support               [Auto]         booting. This will
                                                  decrease the time needed
                                                  to boot the system.




↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
    F7:Previous Values       F8:Fail-Safe Defaults     F9: Optimized Defaults
```

3-6.1 Boot Device Priority

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                        Boot Device Priority
┌──────────────────────────────────────────────┬──────────────────────────┐
│ Boot Device Priority                           │      Item Help           │
│                                                │                          │
│ 1st Boot Device          [1st FLOPPY DRIVE]    │ Specifies the boot       │
│ 2nd Boot Device          [CD/DVD:PM-YAMAHA]    │ sequence from the        │
│                                                │ available devices.       │
│                                                │                          │
│                                                │ A device enclosed in     │
│                                                │ parenthesis has bee      │
│                                                │ disabled in the          │
│                                                │ corresponding type menu. │
├──────────────────────────────────────────────┴──────────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save ESC:Exit  F1:General Help   │
│    F7:Previous Values    F8:Fail-Safe Defaults   F9: Optimized Defaults   │
└──────────────────────────────────────────────────────────────────────────┘
```

Note: Most may have three boot the device choice order of priority.

3-6.2 Hard Disk Drives

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                        Hard Disk Drives
┌──────────────────────────────────────────────┬──────────────────────────┐
│ Hard Disk Drives                               │      Item Help           │
│                                                │                          │
│ 1st Drive          [HDD:PM-ST320014A]          │ Specifies the boot       │
│ 2nd Drive          [SCSI Card]                 │ sequence from available  │
│                                                │ devices.                 │
├──────────────────────────────────────────────┴──────────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save ESC:Exit  F1:General Help   │
│    F7:Previous Values    F8:Fail-Safe Defaults   F9: Optimized Defaults   │
└──────────────────────────────────────────────────────────────────────────┘
```

3-6.3 Removable Drives

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                            Removable Drives

  Boot Device Priority                                    Item Help

  1st Drive                  [1st FLOPPY DRIVE]
                                                    Specifies the boot
                                                    sequence from available
                                                    devices.


 ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
    F7:Previous Values      F8:Fail-Safe Defaults    F9: Optimized Defaults
```

3-6.4 CD/DVD Drives

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                             CD/DVD Drives

  CD/DVD Drives                                           Item Help

  1st Drive                  [CD/DVD:PM-YAHAMA]
                                                    Specifies the boot
                                                    sequence from available
                                                    devices.


 ↑↓→←:Move  Enter:Select  +/-/:Value  F10:Save  ESC:Exit  F1:General Help
    F7:Previous Values      F8:Fail-Safe Defaults    F9: Optimized Defaults
```

3-7　BIOS SECURITY FEATURES

If you highlight this item and press Enter, a dialog box appears that you can enter a Supervisor password. You can enter no more than six letters or numbers. Press Enter after you have typed in the password. There will be the second dialog box asking you to retype the password for confirmation. Press Enter after you have retyped it correctly. Then, the password is required for the access to the Setup Utility or for it at start-up, depending on the setting of the Password Check item in Advanced Setup.

```
CMOS Setup Utility – Copyright (C) 1985-2002, American Megatrends, Inc.
                        BIOS Security Features

 Security Settings                               │      Item Help

 Supervisor Password   │: Not Installed          │ Install or Change the
 User Password         │: Not Installed          │ password.

   Change Supervisor Password│[Press Enter]
   Change User Password      │[Press Enter]
   Clear User Password       │[Press Enter]


 Boot Sector Virus Protection│[Disabled]



↑↓→←:Move  Enter:Select  +/-/:Value │ F10:Save  ESC:Exit  F1:General Help
   F7:Previous Values     F8:Fail-Safe Defaults │ F9: Optimized Defaults
```

3-8　EXIT

Highlight this item and press Enter to save the changes that you have made in the Setup Utility configuration and exit the program. When the Save and Exit dialog box appears, press Y to save and exit, or press N to exit without saving.

Boot Menu

Boot Menu enables user to boot-up on different boot device without going into the BIOS setup.

To enable boot Menu, press "F8" after memory initialization, user will see a device menu, in which user can choose the device they wish to boot from.

```
        Please select boot device:

  1st FLOPPY DRIVE
  CD/DVD:SS-CD-ROM 40X/AKU
  HDD:PM-ST320014A




        ↑ and ↓ to move selection
        ENTER to select boot device
        ESC to boot using defaults
```

Chapter 4

VIA 8237 SERIAL ATA DRIVER

INSTALLATION

You can use your VIA 8237 (SATA1, SATA2) as

1.　　Normal IDE function.
2.　　RAID function. (RAID 0, 1)

To use SATA1 and SATA2 as normal IDE, please do the following steps

1.　　Go to the CMOS setup→SOYO COMBO FEATURE
2.　　Then set the "ONBOARD SATA 1,2" to "SATA".
3.　　Install the VIA Serial ATA driver, see driver installation instruction below.

To use SATA1 and SATA2 as RAID controller, please do the following steps

1.　　Go to CMOS setup→ SOYO COMBO FEATURE
2.　　Then set the "ONBOARD SATA 1,2" to "SATA".
3.　　Go to the CMOS setup→BOOT CONFIGURATION SETUP→ BOOT DEVICE PRIORITY.
4.　　Set the "First Boot Device" to "SCSI Card"
5.　　Install the VIA Serial ATA driver, see driver installation instructions below

Install VIA 8237 SATA during OS Installation

Install driver during Windows XP installation

1. Set the folder options to "show hidden files and folders", check Microsoft help for more info on how to set this option.

2. Go to "**d:\raid\vt8237\driver disk\SATA**" directory, (assuming that your CD-ROM is drive d) copy all the files and folders to a floppy disk. Some files are hidden, so step #1 must be done.

3. Windows XP will start to inspect your hardware configuration.

4. Press "F6" when the message "Press F6 if you need to install a third party SCSI or RAID driver…." Appear. below

5. Press **S** key to specify additional devices when the **Windows XP Setup** window appears.

6. Insert the floppy disk containing driver, then press **Enter** to continue

7. In the following window of device type, please select "**VIA 8237 SATARaid controller for windows XP** " to continue.

8. Win XP will prompt you that a message that the driver is newer than the default driver, press S (use the driver on floppy) to continue.

9. The following interface will list the devices to be installed, in which "**VIA 8237 SATARaid SATARaid controller for windows XP**" item should be included. (If users want to install other devices, press "S" at this time.) Press ENTER to continue Windows XP setup.

Install driver during Windows 2000 installation

1. Set the folder options to "show hidden files and folders", check Microsoft help for more info on how to set this option.

2. Go to "**d:\raid\vt8237\driver disk\SATA**", (assuming that your CD-ROM is drive d) copy all the files and folders to a floppy disk. Some files are hidden, so step #1 must be done.

3. Windows 2000 will start to inspect your hardware configuration

4. Press "F6" when the message "Press F6 if you need to install a third party SCSI or RAID driver…." Appear.

5. Press **S** key to specify additional devices when the **Windows 2000 Setup** window appears.

6. Insert the floppy disk containing driver, then press **Enter** to continue

7. In the following window of device type, please select "**VIA 8237 SATARaid controller for Windows NT and 2000**" to continue

8. Win 2K will prompt you that a message that the driver is newer than the default driver, press S (use the driver on floppy) to continue

9. The following interface will list the devices to be installed, in which "**VIA 8237 SATARaid controller for Windows NT and 2000**" item should be included. (If users want to install other devices, press "S" at this time.) Press ENTER to continue Windows 2000 setup

Chapter 5

ALI M5281 IDE3/IDE4 DRIVER

INSTALLATION

You can use your IDE3/IDE4 as

1.   Normal IDE function.
2.   RAID function. (RAID0, 1, 0+1)

To use IDE3/IDE4 as normal IDE, please do the following steps

1.   Go to the CMOS setup → SOYO COMBO Feature → and set the "Onboard SATA/PATA 3,4" to "Enable".
2.   Install the ALi M5281 driver. See driver installation instruction below.

To use IDE3/IDE4 as RAID controller, please do the following steps

1.   Connect 2 hard disk on IDE3/IDE4.
2.   Go to the CMOS setup → SOYO COMBO Feature → and set the "Onboard SATA/PATA 3,4" to "Enable".
3.   Go to the CMOS setup → BOOT CONFIGURATION SETUP→ BOOT DEVICE PRIORITY
4.   Set the "First Boot Device" to "SCSI Card".
5.   Press "Ctrl+A" when the Ali M5281 BIOS summary screen appears.
6.   Create a disk array, check appendix A for create instructions.
7.   Install the ALi M5281 driver. See driver installation instruction below.

To boot from the IDE 3/IDE4

1.   Go to the CMOS setup → SOYO COMBO Feature → and set the "Onboard SATA/PATA 3,4" to "Enable".
2.   Go to the CMOS setup → SOYO COMBO Feature → and set the

"Onboard SATA/PATA 3,4" to "Enable".

3. Set the "First Boot Device" to "SCSI Card".

For more information on the ALi M5281 Utility Software, please check the ALi M5281 manual located in "d:\manual\ M5281-83_raid096.pdf" in the Soyo driver CD.

Installing ALi M5281 during OS Installation

Install driver during Windows XP installation

1. **Go to "d:\raid\M5283\SATA50XX" directory, (assuming that your CD-ROM is drive d:) copy all the files and folders to a floppy disk.**

2. Start installing Windows XP.

3. Windows XP will start to inspect your hardware configuration

4. Press "F6" when the message "Press F6 if you need to install a third party SCSI or RAID driver…." Appear. Below the screen

5. Press **S** key to specify additional devices when the **Windows XP Setup** window appears.

6. Insert the floppy disk containing drivers, then press **Enter** to continue

7. In the following window of device type, please select "**M5281 SATA RAID controller (Windows XP)"** to continue

8. Win XP will prompt you that a message that the driver is newer than the default driver, press S (use the driver on floppy) to continue

9. The following interface will list the devices to be installed, in which "**M5281 SATA RAID controller (Windows XP)"** item should be included. (If users want to install other devices, press "S" at this time.) Press ENTER to continue Windows XP setup.

Install driver during Windows 2000 installation

1. **Go to "d:\raid\M5283\SATA50XX" directory, (assuming that your CD-ROM is drive d) copy all the files and folders to a floppy disk.**

2. Windows 2000 will start to inspect your hardware configuration

3. Press "F6" when the message "Press F6 if you need to install a third party SCSI or RAID driver…." Appear.

4. Press **S** key to specify additional devices when the **Windows 2000 Setup** window appears.

5. Insert the floppy disk containing driver, then press **Enter** to continue

6. In the following window of device type, please select "which "**M5281 SATA RAID controller (Windows 2000)"** to continue

7. Win 2000 will prompt you that a message that the driver is newer than the default driver, press **S** (use the driver on floppy) to continue

8. The following interface will list the devices to be installed, in which "**M5281 SATA RAID controller (Windows 2000)**" item should be included. (If users want to install other devices, press "S" at this time.) Press ENTER to continue Windows 2000 setup

Chapter 6

ALI M5281 SATA3/SATA4 DRIVER

INSTALLATION

You can use your ALi M5281 (SATA3/SATA4) as

1. Normal IDE function.
2. RAID function. (RAID0, 1)

To use SATA3 and SATA4 as normal IDE, please do the following steps

1. Go to the CMOS setup → SOYO COMBO Feature → and set the "Onboard SATA/PATA 3,4" to "Enable".
2. Go to the CMOS setup → BOOT CONFIGURATION SETUP→ BOOT DEVICE PRIORITY
3. Set the "First Boot Device" to "SCSI Card"
4. Install the ALi 5281 driver. See driver installation instruction below.

To use SATA3 and SATA4 as RAID controller, please do the following steps

1. Connect 2 SATA hard disk on SATA3 and SATA4.
2. Go to the CMOS setup → SOYO COMBO Feature → and set the "Onboard SATA/PATA 3,4" to "Enable".
3. Go to the CMOS setup → BOOT CONFIGURATION SETUP → BOOT DEVICE PRIORITY.
4. Set the "First Boot Device" to "SCSI Card".
5. Press "Ctrl+A" when the Ali M5281 BIOS summary screen appears.
6. Create a disk array, check appendix A for create instructions.
7. Install the ALi M5281 driver. See driver installation instruction below.

To boot from the SATA3/SATA4

1. Go to the CMOS setup → SOYO COMBO Feature → and set the "Onboard SATA/PATA 3,4" to "Enable".

2. Go to the CMOS setup → BOOT CONFIGURATION SETUP → BOOT DEVICE PRIORITY.

3. Set the "First Boot Devise" to "SCSI Card".

For more information on the ALi M5281 Utility Software, please check the ALi M5281 manual located in "d:\manual\M5281-83_raid096.pdf" in the Soyo driver CD.

Installing ALi M5281 during OS Installation

Install driver during Windows XP installation

1. **Go to "d:\raid\M5283\SATA50XX" directory, (assuming that your CD-ROM is drive d:) copy all the files and folders to a floppy disk.**

2. Start installing Windows XP.

3. Windows XP will start to inspect your hardware configuration

4. Press "F6" when the message "Press F6 if you need to install a third party SCSI or RAID driver…." Appear. Below the screen

5. Press **S** key to specify additional devices when the **Windows XP Setup** window appears.

6. Insert the floppy disk containing driver, then press **Enter** to continue

7. In the following window of device type, please select "**M5281 SATA RAID controller (Windows XP)"** to continue

8. Win XP will prompt you that a message that the driver is newer than the default driver, press S (use the driver on floppy) to continue

9. The following interface will list the devices to be installed, in which "**M5281 SATA RAID controller (Windows XP)"** item should be

included. (If users want to install other devices, press "S" at this time.) Press ENTER to continue Windows XP setup.

Install driver during Windows 2000 installation

1. **Go to "d:\raid\M5283\SATA50XX" directory, (assuming that your CD-ROM is drive d) copy all the files and folders to a floppy disk.**

2. Windows 2000 will start to inspect your hardware configuration

3. Press "F6" when the message "Press F6 if you need to install a third party SCSI or RAID driver…." Appear.

4. Press **S** key to specify additional devices when the **Windows 2000 Setup** window appears.

5. Insert the floppy disk containing drivers, then press **Enter** to continue

6. In the following window of device type, please select "which "**M5281 SATA RAID controller (Windows 2000)"** to continue

7. Win 2000 will prompt you that a message that the driver is newer than the default driver, press **S** (use the driver on floppy) to continue

8. The following interface will list the devices to be installed, in which "**M5281 SATA RAID controller (Windows 2000)**" item should be included. (If users want to install other devices, press "S" at this time.) Press ENTER to continue Windows 2000 setup

Chapter 7

DRIVERS INSTALLATION

The SOYO-CD will Auto Run only in Windows Base Operating System.

Your SY-KT880 DRAGON 2 motherboard comes with a CD-ROM labeled "SOYO CD." The SOYO CD contains

a. The user's manual for your new motherboard - in PDF format,

b. The drivers software available for installation, and

c. A database in HTML format with information on SOYO motherboards and other products.

Step 1. Insert the SOYO CD into the CD-ROM drive

In that case the following dialog will pop up. Please choose your motherboard model number and press OK. Now the SOYO-CD Start Up Menu will come up as shown on the following page
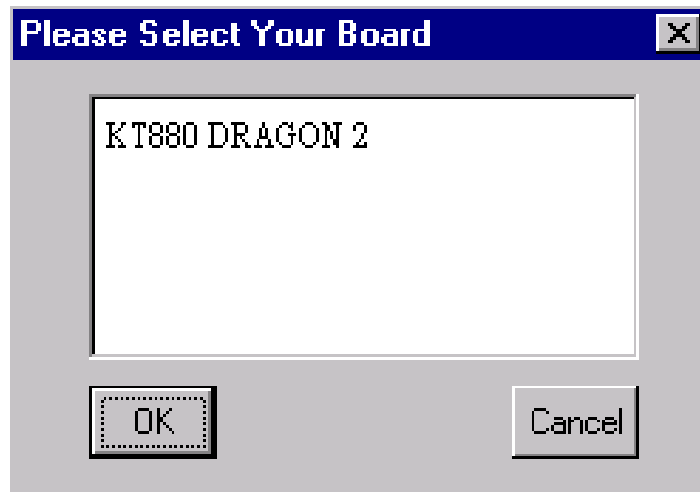
(SOYO CD Start Up Program Menu)

The user's manual files included on the SOYO CD are in PDF (Postscript Document) format. In order to read a PDF file, the appropriate Acrobat Reader software must be installed in your system.

Note: The Start Up program automatically detects if the Acrobat Reader utility is already present in your system, and otherwise prompts you on whether or not you want to install it. You must install the Acrobat Reader utility to be able to read the user's manual file. Follow the instructions on your screen during installation, then once the installation is completed, restart your system and re-run the SOYO CD.

Step 2. Install Drivers and Utilities

Click the *Install Drivers* button to display the list of drivers software that can be installed with your motherboard. The Start Up program displays the drivers available for the particular model of motherboard you own. We recommend that you only install those drivers.

driver:	revision:
------------------- KT880 Dragon 2 --------------------	-
VIA 4 in 1 Driver Package for Win 98SE/ME/2000/XP	v4.51v
VIA USB2.0 Driver for Win 98SE/ME	v2.58L
VIA USB2.0 Driver for Win 2000/XP (click here for installation procedure)	-
VIA Gigabit Ethernet Driver for Win 98SE/ME/2000/XP	v1.2
ALi ATA/SATA RAID Driver for Win 98SE/ME/2000/XP	v5.0.2.6
VIA Serial ATA driver for Win 98SE/ME/2000/XP	v2.20c
C-MEDIA AC'97 Audio Driver for Win 98SE/ME/2000/XP	v5.12.01.0043
KT880 Dragon 2 hardware monitor for Win 98SE/ME/2000/XP	v1.2
---------------- 4in1 Super Bonus Pack --------------	-

Cancel   OK

(Driver Installation Menu)

Select the appropriate driver, then click OK

A short description of all available drivers follows:

➢ VIA 4 in 1 Driver Package for Win 98SE/ME/2000/XP

VIA 4 In 1 driver includes four system drivers to improve the performance and maintain the stability of systems using VIA chipsets. These four drivers are :

VIA Registry (INF) Driver, VIA AGP VxD driver, VIA ATAPI Vendor Support Driver and VIA PCI IRQ Miniport Driver.

➢ VIA USB2.0 Driver for Win 98SE/ME

This setup program will install the driver for VIA USB 2.0 Host Controller for Windows 98SE and Windows ME. For Windows 2000 and XP, please check Chapter 5.

➢ VIA Gigabit Ethernet Driver for Win 98SE/ME/2000/XP

This program will install VIA Gigabit Lan Driver on you computer.

➢ **VIA Serial ATA driver for Win 98SE/ME/2000/XP**

This program is for install Driver to use Serial ATA function.

➢ **C-MEDIA Audio Driver for Win 98SE/ME/2000/XP**

You have to install the drivers before installing any application for the Onboard Audio.

➢ **ALi ATA/SATA RAID Driver for Win 98SE/ME/2000/XP**

This program will install ALi Serial ATA driver on your computer.

➢ **VIA Serial ATA Driver for Win 98SE/ME/2000/XP**

This program is for install Driver to use Serial ATA function.

➢ **KT880 DRAGON 2 hardware monitor for Win 98SE/ME/2000/ XP**

Your motherboard comes with a hardware monitoring IC. By installing this utility, Temperature, Fan speed and Voltages can be monitored. It is also possible to set alarms when current system values exceed or fall below pre-set values.

➢ **Wasay Image It**

Data Image software

➢ **Wasay Pro Magic**

ProMagic is an instant system recovery software that provides convenient instant restoration to the preferred state at any specific restore time point as desired.

➢ **Wasay Data Processing Utility**

Wasay Data Processing Utility is an instant file restoration program that not only provides convenient & instant file recovery but also helps to manage your files.

➢ **Panda Anti Virus Titanium**

Anti Virus software for Windows 98SE/ME/2000/XP.

Note: Once you have selected a driver, the system will automatically exit the SOYO CD to begin the driver installation program. When the installation is complete, most drivers require to restart your system before they can become active.

Step 3. Check the Latest Releases

Click the 'Check the latest Releases' button to go the SOYO Website to automatically find the latest BIOS, manual and driver releases for your motherboard. This button will only work if your computer is connected to the internet through a network or modem connection. Make sure to get your modem connection up before clicking this button.

After Windows XP installation, your device manager should look like this:
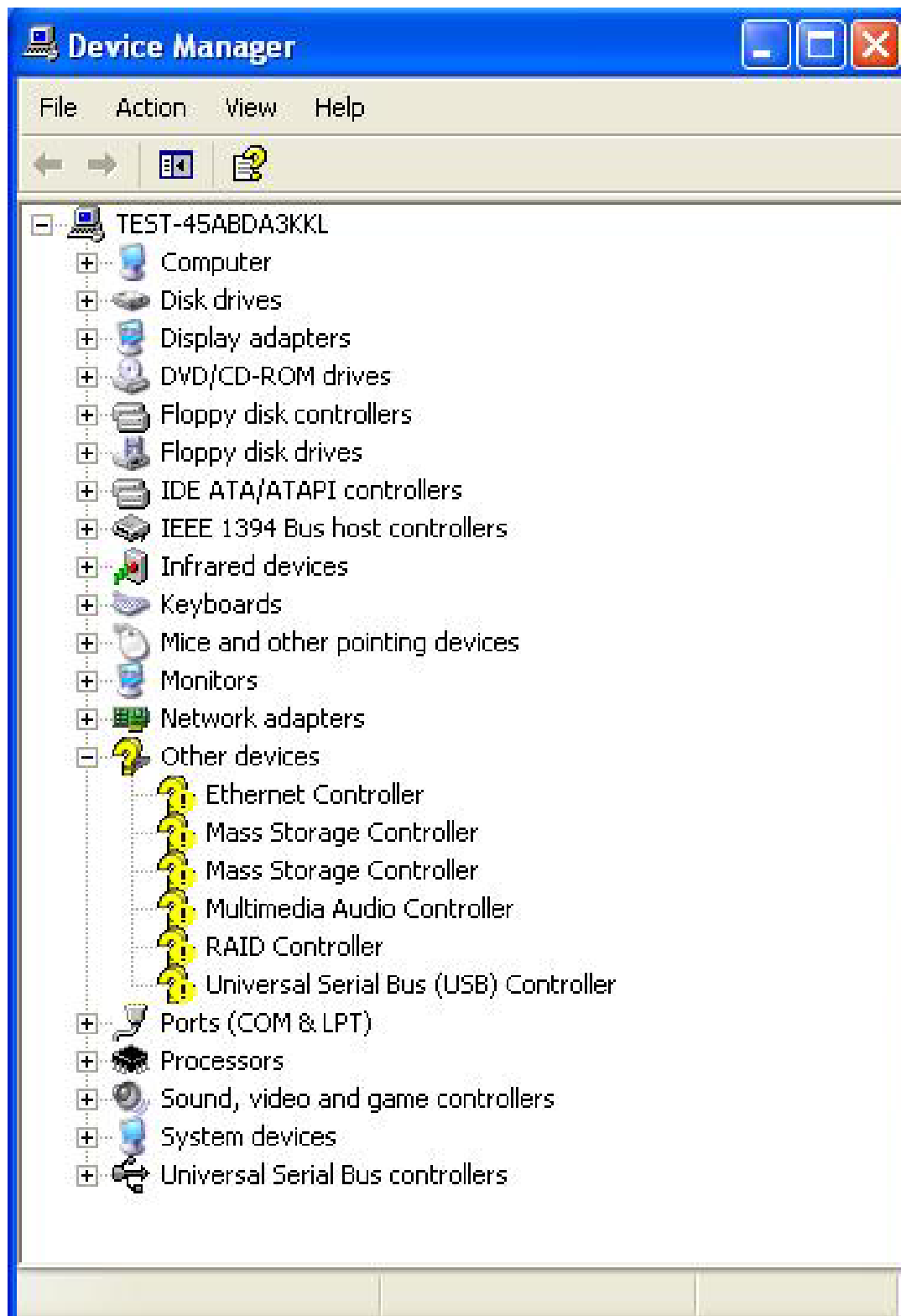
After driver installation, your Windows XP device manager should look like this:
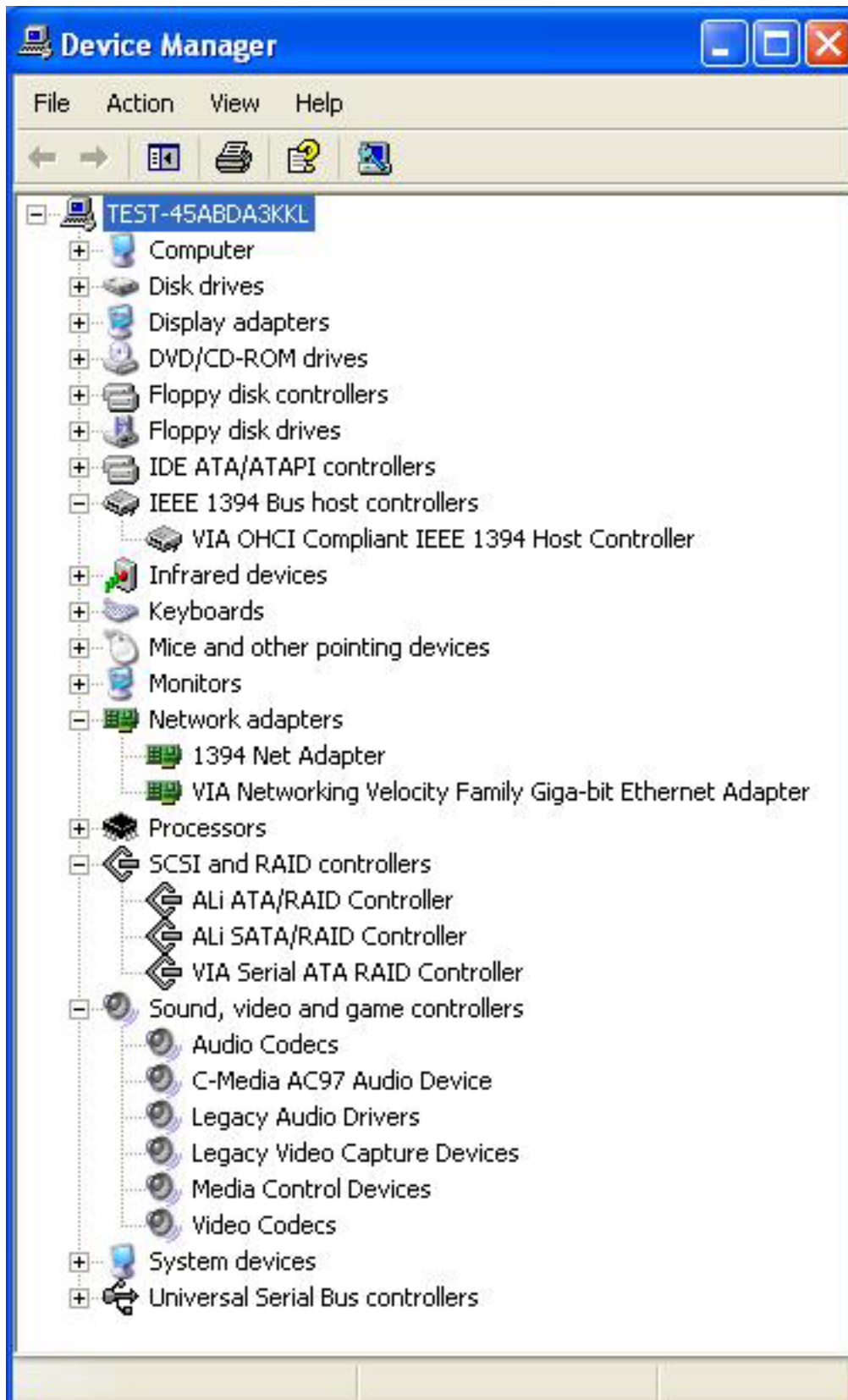
Drivers directory list in the CD driver

Chapter 8

USB 2.0 DRIVER INSTALLATION

USB 2.0 Driver Installation for Windows XP

USB2.0 drivers are available for download using Windows Update for Windows XP.

For additional information regarding USB 2.0 support in Windows XP, please visit

http://www.microsoft.com/windowsxp/pro/downloads/servicepacks/sp1/default.asp

(Windows XP Service Pack1 Include USB2.0 Driver)

After installing service pack1, please do the following:

1) Go into the device manager.

2) Remove " "

3) Restart your system.

Next time Windows XP starts up a new USB 2.0 controller will be found.

USB 2.0 Driver Installation for Windows XP

USB 2.0 drivers are available for download using Windows Update for Windows 2000.

For additional information regarding USB 2.0 support in Windows 2000, please visit

http://www.microsoft.com/windows2000/downloads/servicepacks/sp4/default.asp

(Windows 2000 Service Pack4 Include USB2.0 Driver)

APPENDIX A

ALi M5281

Introduction

1.1 What is ALi M5281 controller

ALi M5281 is a high integration IDE controller that supports both Parallel-ATA and Serial-ATA interfaces. It supports PATA UDMA mode transfer up to mode 6 and SATA 1.0 drives.

M5281 also provides a cost-effective solution of RAID functions for the performance and reliability.

Main Features & Benefits

- Support RAID 0, 1, & JBOD
- Allowed maximum 2 disks connection to every controller (Does not support ATAPI devices)
- Support independent use of hard disk
- Support Operating Systems: Windows 98/Me, Windows 2000, Windows XP.
- Windows-based software for RAID management(compatible with BIOS)

2. ALi RAID BIOS

After the system BIOS detects ALi RAID BIOS, the RAID BIOS version and drive information shows up on the screen.

The following is an example of BIOS version and drives information when using M5281:

ALi RAID BIOS V1.00

(c) ALi Corporation 2003, All Rights Reserved.

Identifying IDE driver .o.o.x.x.o.o

Channel 1 Master: Maxtor 4A160J0

Channel 1 Slave : Maxtor 6L040J2

Channel 2 Master: WDC WD360GD-00F

Channel 3 Master: Maxtor 6Y200M0

Press Ctrl-A to enter ALi RAID BIOS setup utility

When RAID BIOS is waiting after identifying drives, press 'Ctrl' and 'A' simultaneously to enter the setup menu:

2.1 RAID BIOS Setup Menu

```
RAID BIOS Setup Utility (c) 2003 ALi Corporation   www.ali.com.tw

Create RAID 0 Striping for Performance
Create RAID 1 Mirroring for Reliability Select
Create JBOD for integrated Capacity
Stripe Size                                    ┌─────────────────────────┐
Delete RAID Setting & Partition      64K       │ SPACE : Select          │
Delete All RAID Setting & Partition            │ ↑↓    : Moving Cursor   │
Rebuild RAID Array                             │ ENTER : Select & Finish │
Select Boot Drive                              │ ESC   : Exit            │
                                               └─────────────────────────┘

            ───Drive Model─── Mode ───Capacity───RAID Array/Type─
   Channel 1 Master: Maxtor 4A160 J0   UDMA6      163928MB
   Channel 1 Slave : Maxtor 6L040J2    UDMA6       40027MB
   Channel 2 Master: WDC WD360GD-00F   SATA1       37019MB
   Channel 3 Master: Maxtor 6Y200M0    SATA1      203928MB


            ───Capacity───────RAID Type────Stripe Size───RAID Name───
   RAID Array A   :
   RAID Array B   :
   RAID Array C   :
```
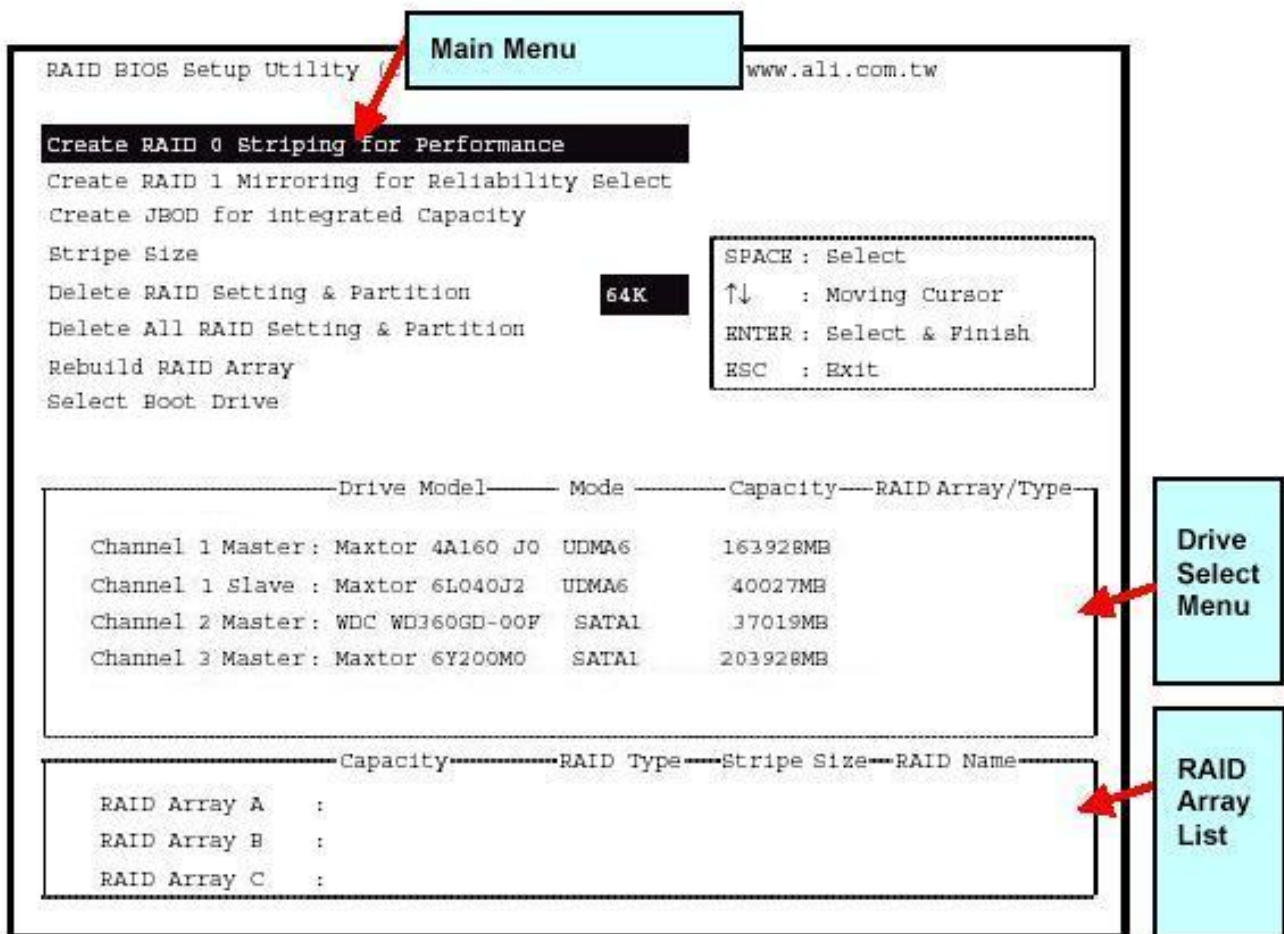
There are three major areas in the RAID BIOS setup screen: Main Menu, Drive Select Menu and RAID Array List:

2.2 Main Menu

In **Main Menu**, the user has several options to operate RAID:

2.2.1 Create RAID 0 Striping for Performance

1. Press 'Enter' key to activate this item. An '**S**' flash cursor appears at the **Drive Select Menu** for the user to choose the first drive for RAID 0.

2. Use 'Space' key to choose the desired drive for RAID 0. Then the flash cursor changes to an '**s**' flash cursor for the user to choose the second drive for RAID 0.

3. The prompt 'Create RAID 0(Y/N)' appears after two drives are properly assigned.

4. Press 'Y', and then some necessary information will be written to the

drives, which may destroy the original data in the drives.

Warning: *Make sure the data in drives is no longer in use before creating RAID Array.*

5. Next, the Array Name input line appears for the user to key in a name for the newly created array. The effective characters for an array name is '0'-'9', 'A'-'Z', 'a'-'z', space and underscore.
6. After the RAID array has been created successfully, its information shows up at **RAID Array List**.

Note: RAID 0 cannot be used for parallel ATA drives connected at the same channel. RAID 0 cannot be used for mixed parallel and serial ATA drives.

2.2.2 Create RAID 1 Mirroring for Reliability

1. Press 'Enter' key to activate this item. An 'M' flash cursor appears at the 'Drive Select Menu' for the user to choose the first drive for RAID 1.
2. Use 'Space' key to choose the desired drive for RAID 1. Then flash cursor changes to an 'm' flash cursor for the user to choose the second drive for RAID 1.
3. The prompt 'Create RAID 1(Y/N)' appears after two drives are properly assigned.
4. Press 'Y', and then some necessary information will be written to drives, which maybe destroy the original data in the drives.

Warning: *Make sure the data in drives is no longer in use before creating RAID Array.*

5. Next, the Array Name input line appears for the user to key in a name for the newly created array. The effective characters for an array name is '0'-'9', 'A'-'Z', 'a'-'z', space and underscore.

6. After the RAID array has been created successfully, its information shows up at RAID Array List.

7. Lastly a prompt message asks whether to do drive copy. The source and destination drives are the ones indicated as 'M' and 'm' in 'Drive Select Menu' respectively.

Note: RAID 1 cannot be used for parallel ATA drives connected at the same channel. RAID 1 cannot be used for mixed parallel and serial ATA drives.

2.2.3 Create JBOD for integrated Capacity

1. Press 'Enter' key to activate this item. A 'J' flash cursor appears at the 'Drive Select Menu' for the user to choose the first drive for JBOD.

2. Use 'Space' key to choose the desired drive for JBOD array. Use 'Enter' key to finish JBOD drive selection. The maximum number of drives for JBOD array is four and the minimum is two.

3. The prompt 'Create JBOD (Y/N)' appears.

4. Press 'Y' key and then some necessary information will be written to drives, which maybe destroy the original data in the drives

Warning: Make sure the data in drives is no longer in use before creating RAID Array.

5. Next the Array Name input line appears for the user to key in a name for the newly created array. The effective characters for an array name is '0'-'9', 'A'-'Z', 'a'-'z', space and underscore.

2.2.4 Stripe Size

This item is effective for RAID 0. The user can choose a stripe size from 64K (default), 32K, 16K, 8K and 4K. If the user uses RAID 0 for most A/V editing application or files, 64K is recommended.

1. Press 'Enter' key to activate this item. Then 64K, 32K, 16K, 8K, 4K items appears at bottom of Main Menu.
2. Use ' ↑ ' ' ↓ ' to choose the stripe size.

2.2.5 Delete RAID Setting & Partition

1. Press 'Enter' key to activate this item. An 'E' flash cursor appears at the 'Drive Select Menu' for the user to choose defined array drive to be deleted.
2. 'Data on RAID drives will be erased (Y/N)?' prompt message shows up to confirm the user's selection.
3. Press 'Y' key, and then the data in drivers is destroyed.

Warning: Make sure the data in drives is no longer in use before deleting RAID Array.

4. '**RAID array List**" automatically updates itself.

2.2.6 Delete All RAID Setting & Partition

1. Press 'Enter' key to activate this item.
2. 'Data on RAID drives will be erased (Y/N)?' prompt message shows up to confirm the user's selection.
3. Press 'Y' key, and then the data in drivers is destroyed.

Warning: Make sure the data in drives is no longer in use before deleting RAID Array.

4. '**RAID array List**" automatically updates itself.

2.2.7 Rebuild RAID Array

When a drive is replaced or BIOS detects a bad drive, use **Rebuild RAID Array** to keep data coherency for RAID 1 and 0+1.

1. Press 'Enter' key to activate this item. An 'R' flash cursor appears at the 'Drive Select Menu' for the user to choose the array to rebuild.
2. BIOS shows the source and destination drives and waits for confirmation to rebuild. Press 'Y' to start rebuild process.
3. Process status bar shows up during the rebuild process.

2.2.8 Select Boot Drive

1. Press 'Enter' key to activate this item. A 'B' flash cursor appears at the 'Drive Select Menu' for the user to choose the boot drive.
2 .Press 'Enter' or 'Space' Key to finish selection.

Note: The boot drive affects how the operation system treats the order of other drives. Take the above BIOS screen as an example, if Channel 3 is the boot drive, the operation system will use the order of Channel 3 Master, Channel 1 Master, Channel 1 Slave, Channel 4 Master consecutively.

2.3 Drive Select Menu

There are three bars in this menu: two RAID Drive Selection Bar and one Boot Drive Selection Bar.

APPENDIX B

Troubleshooting

Troubleshooting at First Start

Boot-up Issues

The system does not power-up, no beeping sound heard and the CPU fan does not turn on.

1. Check if the power cord is plug into the power source.
2. Check if the power is connected to the M/B.
3. Check if the cable of the case power button is connected to the M/B power button connector (see Connectors and Plug-ins section in this Quick start guide for more info).
4. Make sure the power supply is not defective. Change the power supply. The minimum should be a 350 watts AMD recommended power supply.
5. Remove the M/B from the case and test the system. The M/B might be shorted to the case.

The system powers-up, but no video, or beeping sound heard. The CPU fan is turning.

1. Clear CMOS battery. (JP5 connector, see this Quick start guide for more info on how to clear the CMOS).
2. Check all the jumper settings on the M/B.
3. Check if the CPU is ok, by using another CPU (check the Quick start guide for CPU supported on this M/B).
4. Check if the power supply is ok. The minimum should be 350 watts, AMD approved.
5. Make sure the CPU fan is connected to CPUFAN1 connector.
6. Remove the M/B from the case and test the system. The M/B might be shorted to the case.

The system power-up, no video, beeping heard.

1. Clear CMOS battery. (JP5 connector, see this Quick start guide for more info on how to clear the CMOS).
2. Check all the jumper settings on the M/B.
3. Check if the memory module and the VGA card (if onboard VGA is

not used) are inserted properly in the M/B.

4. If yes, change the memory module, it might be defective. Make sure the memory specification is supported by the M/B. (for more info on this, check our FAQ on the website).

5. Change the VGA card (if used).

The system turns on for some seconds then shutdown by itself.

1. Check if the CPU fan is connected to the CPUFAN1 connector.

2. The CPU might be overheating. Check the CPU fan if it is defective, also sees if the CPU fan is in contact with the CPU.

3. Clear CMOS battery. (JP5 connector, see Quick start guide for more info on how to clear the CMOS).

4. Make sure the power supply you have on your system support the M/B specification.

5. If you already checked the power supply specification, change the power supply it might be defective. The minimum is 350 watts AMD approved.

When I boot up my system, everything works fine, it sees my CPU and memory, detects my hard drive, floppy drive and CD-ROM but locks up at "Verify DMI pool data... ". It doesn't boot go any further. What should I do?

1. Clear CMOS battery. (JP5 connector, see Quick start guide for more info on how to clear the CMOS).

2. If still has the problem, remove all other add-on cards (use onboard vga) and see if it boots further. Then put peripherals in one by one to identify which one of them causes the lockup.

3. Change the CPU.

During Boot-up, my computer says CMOS memory Checksum error. What can be the problem?

1. Clear CMOS memory.

2. Re-flash BIOS. Check on how to flash BIOS on the later part of this guide.

3. Change the CMOS battery, the battery might be drained.

4. The BIOS chip might be failing.

I hear a 1-2 beeping sound and then the system shut down, what is the problem?

Verify that the CPU fan is connected to the CPUFAN1 connector.

Stability Issues

My system intermittently locks up, very unstable

1. Check the CPU Temperature, your CPU might be overheating. Change the CPU FAN.
2. Do not overclock your CPU
3. Check the specification of the memory module, maybe the M/B does not support it.
4. Go to BIOS setup and load fail safe settings. Please check if the system performance in the BIOS setup is set to Turbo/Maximum. Set it to normal if this is the case
5. Check the website for the latest BIOS update.
6. Check the website for FAQ's regarding instability issues.
7. Change the memory module or CPU.
8. The power supply might not have enough wattage to support all the peripherals. If your system has other peripherals connected, like CD-RW, extra HDD, etc. disconnect them, or use a power supply with a higher wattage.

My system intermittently locks up, during Windows installation.

1. Go to BIOS and load the "load optimized defaults".
2. Check the website for any BIOS updates.
3. If you still have the problem, remove all other add-on cards except for CPU/ Memory/ onboard Video/ Hard disk. See if you can finish Windows installation. Then put peripherals in one by one to identify which one causes the lockup.

BIOS Issue

Where can I find the BIOS revision of my mainboard?

It will be displayed on the upper-left corner of the screen during boot-up. It will show as your board type followed by the revision number, such as kvxa_2BA1 (meaning BIOS revision 2BA1 for the SY-K7V Dragon plus! mainboard) or 6BA+ IV_2AA2 which means SY-6BA+ IV motherboard, with a 2AA2 BIOS.

Where can I find the latest BIOS of my motherboard?

Please go to the technical support page of one of the SOYO websites (Taiwan: www.soyo.com.tw, US: www.soyousa.com, Germany: www.soyo.de), and look up your motherboard to find the latest BIOS revision.

How can I flash the BIOS?

1. Download the BIOS on our support website.
2. Make a bootable floppy disk with out any memory manager loaded (i.e. himem, emm386, etc…).
3. Copy the BIOS file and awdflash utility to the diskette.
4. On the CMOS setup and disable CIH 4-way protection.
5. Type "awdflash biosname.bin /sn /py".
6. Reboot.

After flashing the BIOS, my system will not boot-up.

1. Try clearing the CMOS.
2. The BIOS chip is defective due to an unsuccessful flash, contact your nearest SOYO branch for re-flashing.

Is there a way to reprogram my BIOS after an unsuccessful flash?

No other way, you need to send back the BIOS ROM to your nearest SOYO branch for re-flashing.

I'm using a 133MHz FSB CPU, I cannot find the DDR 100MHz option in the BIOS, why?

The DDR speed should not be lower than the CPU FSB speed.

VGA Issue

I cannot set my VGA to go higher than 16 color (640x 480).

1. Install/ re-install the VGA driver.

After waking up from Suspend to RAM or Standby mode, the screen has no display but I can hear the hard disk operating

1. Check the VGA card manufacturer for a driver update (if using a different video card then the onboard video), and make sure the VGA card supports the Suspend to Ram function.

2. Update your VGA card's BIOS (in the case of a video card other then the onboard video). Check your VGA card manufacturer for more details.

Audio Issue

How can I disable the on-board Audio?

Go to the SOYO Combo Feature in BIOS setup, then set the "AC97 Audio" setup option to disabled.

I cannot get the sound working on my system.

1. Check if the speaker wire is connected to the line out connector on the M/B.
2. Check if the speaker power is powered on.
3. Install the audio driver supplied on our driver disc.
4. Check BIOS setup if "AC97 Audio" setup option is enabled.
5. If sound already installed, check our website for audio driver updates.

The sound is working in my system, but when I play CD music from the CD-ROM, I do not get any sound. What is wrong?

This is because the 3-wire audio cable from the CD-ROM to the on-board CDIN1 connector in the M/B is not connected. See the beginning of this guide for the location of CDIN1.

The sound and everything else works fine except that the line-in and microphone do not work. What is wrong?

1. Please go to sound properties and check if the line-in and microphone in are enabled and not muted.
2. Check if the Microphone is ok.
3. When using 6 speakers the line-in and microphone channels are used for rear, center and bass. 6-Channel audio and microphone/line-in can not be used at the same time.

Hard disk/FDD/ CD-ROM issue

My Western digital HDD is not detected during boot-up.

Change the jumper settings to cable select or single.

Sometimes the system finds my CD-ROM, sometimes not.

1. Check CD-ROM if it is working properly.
2. The power supply might not have enough wattage to support all the peripherals. If your system has other peripherals connected, like CD-RW, extra HDD, etc. disconnect them.

When I boot up my new computer, I get "floppy boot failure" and the LED on the floppy stays on.

Make sure the red wire of floppy ribbon cable goes to Pin1 on the floppy drive side (don't trust the "key lock" or "notch") and use the end-connector of the cable (don't use middle one).

LAN Issues

During LAN driver installation, the system hangs on 75%, why?
Enable the onboard LAN in the BIOS setup.

I have problem installing Novell NetWare v.50.
Disable the APIC option in the BIOS.

For updated FAQs, please check http://www.soyousa.com/support/

APPENDIX C

Contact Information

How to contact us:

- If you are interested in our products, please contact the SOYO sales department in the region you live.
- If you require Technical Assistance, please contact our Technical Support in the region you live.

SOYO prefers Email as communication medium, remember to *always add to the email the country that you live in*.

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